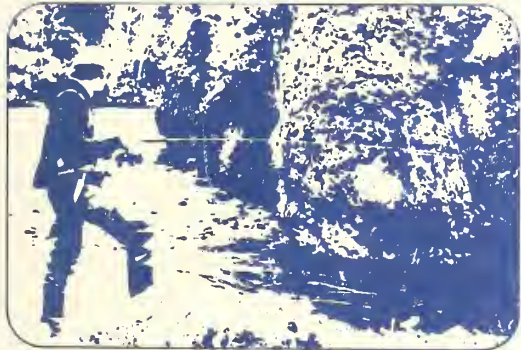


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DESIGN FOR TOMORROW 1977-1990

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DESIGN FOR TOMORROW 1977-1990

An abbreviated version of the 1978 MONTANA STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN, a strategic plan for the protection, perpetuation and wise use of Montana's wildlife, fish and recreational resources.

November 15, 1978

Acknowledgments

“Design for Tomorrow” is an abbreviated, simplified, updated version of the “1978 Montana Statewide Comprehensive Outdoor Recreation Plan” of March 1, 1978. Appreciation is expressed to those individuals from state, federal and local agencies and the private sector who contributed to development of the original plan. Special thanks are given to the many department employees who provided assistance with this summarized version and/or the original plan.

Preliminary layout was initiated by Julie Myers. Kay Ellerhoff provided major editorial assistance and Donita Sexton completed graphics and final paste-up. Major typing assistance was provided by Phyllis White and May Mace. Special effects photography was done by Doug O’Looney of Lightwork Photographic Communication.

The three major sections—wildlife, fish, parks—were respectively compiled by Tom Mussehl, John J. Gaffney and Wes Burnett. Don Brown coordinated the overall effort.

FOREWORD

Nearly all Montanans love the out-of-doors. Most of us enthusiastically indulge in some form of outdoor recreation; but even those who are unable to do so take great pride and satisfaction from the beauty, splendor and diversity of our great state. Furthermore, there are millions of other Americans who fully appreciate the unique value of our mountains and forest, our range land and rivers, our fish and wildlife and all the other great attributes of outdoor Montana.

The Montana Department of Fish and Game has the awesome task of trying to protect and enhance these outdoor resources, while providing high quality recreation opportunities to as many people as possible. This task must be carried out at a time when Montana is facing the demands of a growing human population and expanding economic development.

The department has recently completed a major planning effort that we believe will give us a better sense of direction as we head into the future. We have compiled a data base which we will use as a bench mark for measuring our progress. We have articulated new goals, objectives and policies which we think will better serve the needs of Montana and her people. We have described some of the major problems we see, and have identified some alternative solutions to these problems. And, we have set up some targets that we hope to achieve in the next five or ten years.

We have put our best thinking into this plan, but for it to become truly viable, we need opinions and comments from a broad segment of the public. To facilitate this, we have prepared a brief summary of our plan, and have labeled it "Design for Tomorrow." We hope it will tell you where we think we should be going. But we also hope it will stimulate some debate and that you will give us the benefit of your thinking on these matters.

The protection and enhancement of Montana's fish, wildlife and other recreation resources is a big job. We need your help, and we would appreciate your participation in this planning effort.

A handwritten signature in cursive script that reads "Robert F. Wambach". The signature is written in black ink and is positioned above the printed name and title.

**Dr. Robert F. Wambach, Director
Montana Department of Fish and Game**

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INTRODUCTION: THE NEED FOR FORESIGHT

Montana is in an era of increasing stress upon a decreasing base for recreational resources. Habitat, the key to future fish and wildlife populations, is diminishing while many scenic, historic and recreational resources face overuse and deterioration. More people will be wanting more recreation—and more food, fiber, land and energy.

WHERE DO WE WANT TO GO? WHAT STANDS IN THE WAY?

In this publication, the department presents the goals, objectives, major problems, responsibilities and actions for its three resource programs: wildlife, fish and parks. In order to best manage fish and wildlife and recreation resources for public benefit, we think it is *essential* to look ahead and identify the problems standing in the way—to take aim at where we should be and to decide how to get there—before tomorrow becomes today!

HOW DO WE GET THERE?

Establish priorities and coordinate direction for operation of the department's organizational units, strive to make the most efficient use of funds available to cope with the problems standing in the way, keep *you*, the public, informed about our progress and seek your continued input and support.

MAJOR PROBLEMS AND ISSUES

Increasing human population growth and high participation rates in outdoor recreation are accelerating demands for wildlife, fish and parks recreational resources.

Means are needed to provide outdoor recreation to an increasing number of people without damaging the capability of the basic resources or significantly lowering the quality or diversity of the recreational experience.

Expanding and intensifying land and water uses are diminishing the quality and quantity of fish and wildlife habitat and cultural and recreational resources.

Public access for hunting, fishing and other

recreational uses of private and public lands and waters has rapidly been diminishing.

Land acquisition, for the provision of public recreation, conservation of key fish and wildlife habitats and protection of scientific and cultural sites, is vitally important to ensure such amenities for future generations.

Competitive demands for land and water will increase costs and difficulty of acquisition.

Increasing participation in recreation, increased management complexities and inflationary trends are increasing costs beyond traditional funding sources.

WHAT IS BEING DONE?

Some of the positive actions receiving increased emphasis by the Department of Fish and Game include:

- Cooperating with the Landowner Relations/Sportsmen Access Advisory Council and increasing field efforts and landowner contacts to find solutions to public access and management of game on private land. Many department employees are receiving "ex-officio" warden training. A toll-free telephone number has been established to encourage self-policing by sportsmen of their own ranks and for reporting vandalism, property damage and other problems of private landowners. Property damage has been a primary reason given for private land access restrictions. Ways to increase access are being sought.

- Seeking ways to attain more equitable distribution of recreationists, in space and time to spread out hunters, fishermen and other recreationists.

- Informing the public, other agencies and land users of those developments, practices and human activities that are detrimental—or beneficial—to Montana's fish, wildlife, cultural and recreational resources. This includes entering into litigation on key cases affecting land use decisions.

- Conducting field studies and inventories of fish, wildlife and cultural and recreational sites, including participating in land use planning and environmental assessments.

- Cooperating with the Citizens Nongame Advisory Council to define management needs, receive citizen input and seek funding sources.

- Experimenting with methods of increasing public

involvement in review of parks strategic planning.

- Improving conservation education efforts, with emphasis on youth.

- Cooperating with the State Land Board in an inventory to identify recreational potentials of Montana's State Trust Lands.

- Securing control of key habitats and cultural sites where feasible.

- Revising land acquisition policies and procedures.

- Experimenting with new approaches to budgeting and accounting. Systematic means are needed to give priority to those field projects or activities which are most efficient and effective in meeting resource program objectives.

- Making better use of existing employees by the sharing of field duties and working toward common program objectives.

BUT LASTING SOLUTIONS WILL DEPEND ON:

The department providing:

foresight and effective administration of resource management, continued dedication and coordinated efforts of employees and sound fiscal management of available funds.

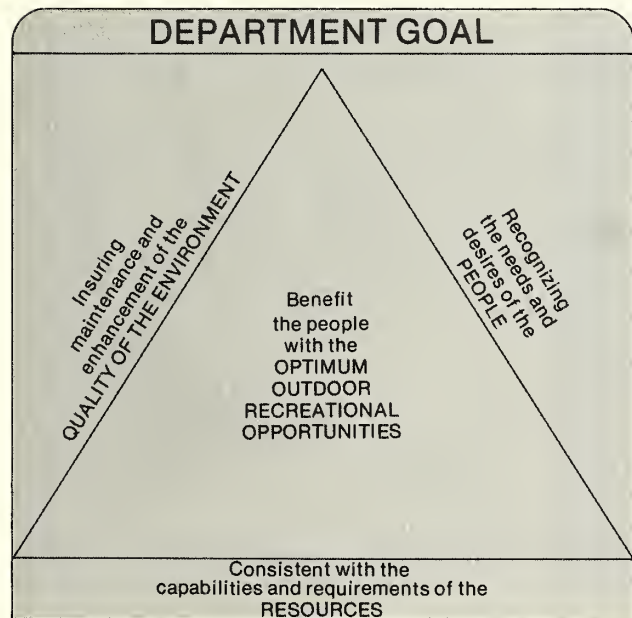
Combined with:

public recognition that fish, wildlife, cultural resources and associated recreation are high priority, beneficial uses of land and water;

improved behavior by hunters, fishermen and outdoor recreationists when afield on private and public lands; land use ethics that will protect habitat and cultural resources and sustain abundant yields of renewable resources including fish, wildlife and other means of outdoor recreation, and

continued citizen interest, support and understanding for adequate funding and involvement in the choices of how Montana's fish, wildlife and park recreation resources are DESIGNED FOR TOMORROW.

Goal and Scope of the Department



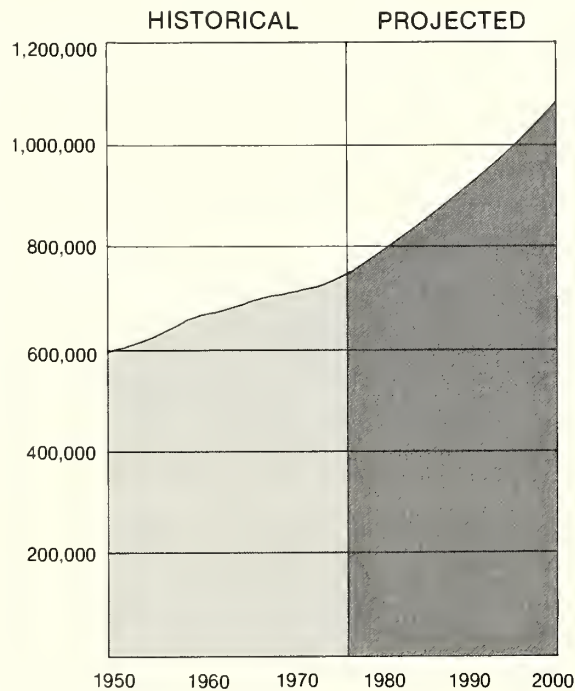
WILDLIFE PROGRAM GOAL	WILDLIFE PROGRAM FUNDS
To protect, perpetuate, enhance and regulate the wise use of wildlife resources for the public benefit now and in the future.	Earmarked revenue from sales of hunting, fishing and other licenses, fines and misc. revenue 68%
	Federal tax on sporting arms, ammo and archery equip. 25%
	Federal, state and private revenue 7%

FISH PROGRAM GOAL	FISH PROGRAM FUNDS
To perpetuate aquatic species and their ecosystems and meet the public demand for fish in state waters.	Earmarked revenue from sales of hunting, fishing and other licenses, fines and misc. revenue 74%
	Federal tax on fishing tackle 14%
	Federal, state and private revenue 12%

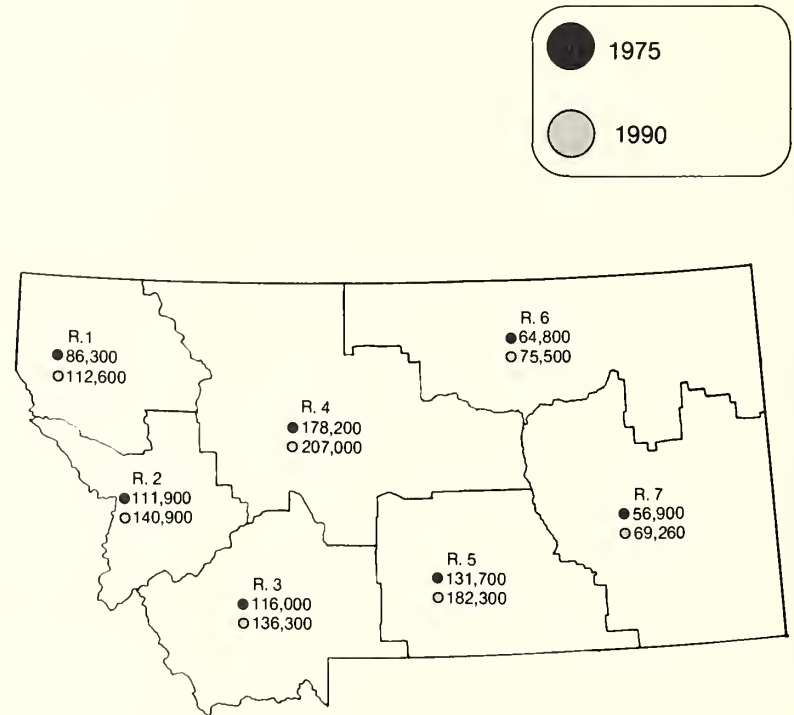
PARKS PROGRAM GOAL	PARKS PROGRAM FUNDS
To manage Montana's scenic, historic, archaeological and recreational resources and to meet present and future demands in a manner consistent with the capabilities of the resources.	Earmarked revenue from sales of hunting, fishing and other licenses, fines and misc. revenue 17%
	Boat and snowmobile gas tax. 25%
	Coal tax and matching funds 10%
	General fund. 23%
	Land and Water Conservation Funds 11%
	Parks earned revenue. 9%
	Boat and snowmobile licenses 5%

Montana Human Population Trends and Projections*

STATEWIDE (1950-2000)



REGIONAL (1975-1990)



*From Montana Department of Community Affairs, Division of Research and Information Systems, August 1977 (medium series).

Message to Future Legislatures

Concern with conservation of Montana's recreational resources is deeply rooted in the state's history and this concern is reflected in major legislation. Montanans are fortunate that past legislatures have had the foresight to establish mechanisms for protection and management of fish and wildlife populations and habitat as well as other significant cultural, scientific and recreational resources. The challenge now lies in updating and creatively implementing the policies now firmly established in law. A future for fish, wildlife and recreational resources can be achieved only with continued legislative support—including adequate funding—of existing management concepts.

Montanans and visitors have always enjoyed an abundance of fish, wildlife and outdoor recreational opportunities. The availability of these resources is jeopardized by declining access to public and private lands and waters. We urge your full support of the efforts and suggested solutions offered by the Landowner Relations/Sportsmen Access Advisory Council; lasting, workable solutions to this critical problem are important to all Montanans.

We also seek your understanding for the unique, diverse and complex funding that supports the wildlife, fish and parks programs. The specific users of wildlife, fish and certain recreational resources have provided the major sources of funds. In some cases, such as conservation and management of nongame as well as many scientific and cultural resources, responsibilities have been mandated but have not been accompanied by adequate or appropriate funding. In these inflationary times, we recognize that economizing by clearly selecting priorities is extremely important. We hope that "Design for Tomorrow" will help provide Montanans with the choices leading to a better tomorrow.

RECOMMENDATIONS FOR LEGISLATIVE APPROVAL:

AFFECTING THE OVERALL DEPARTMENT

Changing the name of the Department of Fish and Game to more accurately portray its responsibilities in managing wildlife, fish and parks resource programs.

Providing a state funding source for the nongame wildlife management needs mandated by state law.

Updating fish and game laws to reflect current goals in fish and wildlife management.

Establishing state policy to assert that regulated utilization of wildlife, fish and parks are beneficial uses of resources.

PRIMARILY AFFECTING THE WILDLIFE PROGRAM

Updating hunting license laws to improve management of wildlife and hunters.

Defining lynx and wolverine as fur-bearing animals and providing for protection and management of these species.

Establishing and requiring a nonresident trapping license and increasing the resident trapping license fee to fund needed, upgraded fur management efforts.

Establishing and requiring a nonresident turkey tag; a 5-1 ratio to the resident fee is recommended.

Providing authority to charge a nominal fee to special drawing applicants.

Establishing a license for hunting buffalo.

PRIMARILY AFFECTING THE FISH PROGRAM

Increasing resident and nonresident fees to provide adequate funding for the Fish Program.

Defining whitefish as a commercial species to allow a harvest in designated waters to utilize a resource presently not used by anglers.

Providing authority for a permit card system for harvest of paddlefish and white sturgeon.

PRIMARILY AFFECTING THE PARKS PROGRAM

Decreasing reliance on the general fund by shifting an equitable share of the cost of parks management to the users.

Identifying methods of assuring that park resources are managed as a perpetual trust.

Authorizing and funding a unified program of off-highway recreation vehicle management.

Improving coordination between those federal, state and local agencies and the private sector with responsibilities for outdoor recreation.

OTHER

Providing and funding a strong, realistic and workable state antiquities act.

Providing for adequate future funding for the warden retirement law.

Supporting congressional delegation efforts to improve existing access to and management of federal reservoirs, particularly Fort Peck and Canyon Ferry.

WILDLIFE PROGRAM



The Wildlife Program is composed of three major categories: *big game*, *small game* and *nongame*. It includes the 462 species of mammals, birds and reptiles occurring in Montana. (Amphibians are included in the Fish Program.)

LONG-RANGE GOAL:

The goal for the wildlife program is *to protect, perpetuate, enhance and regulate the wise use of these renewable resources for public benefit now and in the future.*

The department thus has a twofold responsibility: (1) to protect, perpetuate and enhance the habitat that produces the abundant and diverse wildlife that is an integral part of Montana's heritage and (2) to provide current and future generations of people with an equitable distribution of diverse and high-quality outdoor recreation through the wise utilization of wildlife resources. This dual challenge is a formidable task in the face of increasing human populations, land-use impacts on wildlife habitat, tightening access to private and public lands and increasing costs and complexities of management.

USING THE WILDLIFE RESOURCE FOR PUBLIC BENEFIT

Consumptive

Hunting has been a traditional use of Montana's game resource, from the time when it was a basic means of survival to the major recreational activity it represents today. Opportunity is provided to that segment of the public that desires to hunt for recreation and wild meat or to trap furbearers. Under sustained yield management, annual biological surpluses of animal populations are harvested during portions of each year and the remainder of the population is continuously available to the nonconsumptive user. Hunting and trapping are also management tools for controlling wildlife populations that injure habitat or man's health or property.

The importance of hunting in Montana is indicated by the high rate of participation: In 1973, 35% of Montanans (age 12 and over) and over 31,000 nonresidents purchased some type of hunting license. In 1973, 27% of residents (12 and over) purchased deer licenses; this declined to 21% in 1977 (when less deer were available). In contrast, in the United States less than 11% hunt; in California less than 3% hunt. In 1975, more than 2.4 million days of big game and game bird hunting recreation were provided in Montana—over 2.7 million days are expected by 1980.

Both public and private lands are important for wildlife habitat and as sources of wildlife recreation. In 1975, nearly half of all big game hunting recreation occurred on private land. Increasing restrictions on access to private lands is reducing recreation space and available supply of game.

In facing the years ahead, with *an increasing stress upon a decreasing resource base*, the department has several options to accommodate increasing hunting pressure:

- maintain or increase the number of animals available through intensive management and acquisition of habitat,
- regulate hunting in a manner that decreases hunting success but favors participation,
- limit the number of participants by time and space,

provide a wider diversity of hunting and nonhunting recreation, maintain and increase access to public and private lands or combinations of the above.

Nonconsumptive

Nonconsumptive uses of wildlife have always been important to Montanans and visitors. Recent surveys of over 5,000 households indicated that 43% of Montanans (ages 16-60) participated in wildlife viewing and 21% in wildlife photography. Of campers, 34% stated that wildlife observation was a major reason for camping. As Montana's human population and urban areas grow, we can expect increased interest in nongame and nonconsumptive wildlife uses.

The majority of wildlife species *are not* harvested—yet they all have been protected and maintained by sportsmen's dollars obtained through hunting license fees and the Pittman-Robertson Act (a federal excise tax on sporting arms and ammunition). Most hunters and trappers also enjoy observing wildlife at all times of the year.

The importance of *all wildlife to all Montanans* is indicated by a 1977 state survey ("Montana Futures: A Survey of Citizen Choices"): "Over 55% of the men and over 20% of the women in Montana claim to be hunters, and fewer than 1 in 7 oppose hunting. Whether they hunt or not, approximately 70% of Montana's residents make special efforts to observe wildlife in its natural setting."

THE FUTURE

Objectives for the Wildlife Program

Following are brief discussions of the status, outlook and management objectives for the major species, or groups of species, within the big game, small game and nongame categories of the wildlife resource program. These pages (8-28) are important because they describe *where we have been and where we think the wildlife program should be going*. The objectives are short-term (1977-82), focusing on attainment by 1980. The objectives are optimistic in that they call for improvement—in addition to maintenance—at a time

when increased stresses on and competition for use of these renewable wildlife resources are mounting. Future game harvest objectives must be considered "target" numbers due to the many factors that influence annual wildlife populations and annual harvests.

Attainment of short-term objectives and the long-range goal for the Wildlife Program will depend greatly upon the department's effectiveness in finding solutions to major problems standing in the way.

Major Problems Confronting the Wildlife Program

Increasing demands are expected on all types of wildlife-oriented recreation due to increasing human populations. If Montana's population reaches 1 million by the 1990s, the number of *resident* hunters could exceed current totals of *residents and nonresidents*. Increasing urban concentrations of people will also *increase interest in nonconsumptive* wildlife uses. We will need to improve the means of providing an increasing number of people with an equitable distribution of wildlife recreation.

Intensifying land and water uses are decreasing the quality and quantity of wildlife habitat. About 82% of the state's land area is used for agricultural purposes; 25% is forested, and wood products are a major industry. The future of wildlife depends largely upon its compatibility with intensifying uses of other basic renewable resources, such as food, forage and timber. The land base area for all renewable resources is shrinking because of expansion of urban areas and adjacent rural development, expanding transportation systems and energy developments.

Access to private and public lands is declining. A significant portion of wildlife resources occur on private land and increasing restrictions and closures of private land are reducing the availability of wildlife on both private and public lands. In 1975, a statewide analysis estimated that 40% of private land with mule deer was closed or severely restricted to public deer hunting. The department is intensifying efforts to improve relations with landowners in central and eastern Montana and cooperating with the Landowner Relations/Sportsmen Access Advisory Council.

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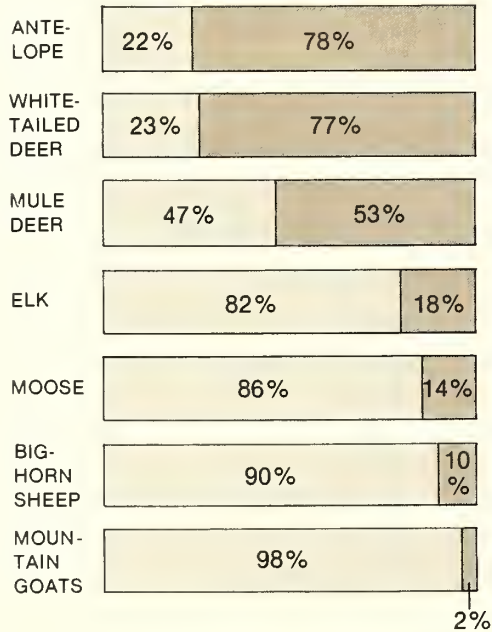
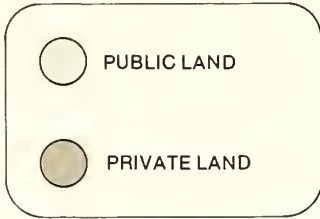
STATEWIDE HUNTING RECREATION

SPECIES	HUNTERS AFIELD		HUNTING DAYS	
	1975	1980	1975	1980
BIG GAME				
Mule Deer	112,000*	116,000*	677,000	685,000
Whitetailed Deer	66,000*	79,000*	392,000	461,000
Elk	90,700	93,000	650,000	700,000
Antelope	25,000	35,400	75,000	96,000
Moose	763	968	4,600	6,800
Bighorn Sheep	752	1,000	5,200	7,500
Mountain Goat	508	685	2,500	3,100
Black Bear	6,200	7,600	54,300	58,600
Grizzly Bear	789	800	5,500	5,600
Big Game Archery**	7,972	10,000	69,700	80,350
TOTAL BIG GAME			1,937,000	2,105,450
UPLAND BIRDS				
Mountain Grouse	32,700	40,200	123,000	149,000
Prairie Grouse	31,600	41,100	85,000	111,000
Introduced Species	48,900	60,600	112,700	140,400
Waterfowl	25,000	30,000	233,300	289,600
TOTAL GAME BIRDS			544,000	690,000
TOTAL (BIG GAME & BIRDS)			2,421,300	2,715,100

*One tag equals one hunter

**Archery: deer, elk, antelope

**SOURCE OF STATEWIDE
BIG GAME HARVESTS IN
RELATION TO
LAND OWNERSHIP (1975)**



The deer and antelope licensing structure requires some legislative changes to allow improved control of resident and nonresident hunter distribution.

There is need for improved public understanding and support. Despite much interest in wildlife, some Montana citizens lack appreciation or adequate understanding of:

- (1) the needs of wildlife resources,
- (2) the role of hunting and sustained-yield management of game,
- (3) how management of the Wildlife Program is funded and
- (4) the value and public benefit of wildlife resources.

There is need for improved capability to preserve, dedicate and enhance key wildlife habitats and access to them through acquisition and leasing of land.

Inflationary trends and increasing resource management complexities will accelerate operational costs beyond current capacities for funding. The Wildlife Program is essentially funded by sportsmen through state hunting license fees and the federal excise tax on sporting arms and ammunition under the Pittman-Robertson Act. Additional funds are provided by federal, state and private contracts for research and ecological surveys. The legislature has mandated a nongame management program, yet funding was not provided. Initial studies are being conducted entirely with sportsmen's dollars. Broader sources of funding will be required.

Projections indicate that current rates of inflation will lower the "comparative buying power" of the future license income (at current license fees and despite projected increases in hunters) by the early 1980s. And, anti-hunting forces are seeking to disrupt the federal-state Pittman-Robertson, Dingell-Johnson funding process by which sportsmen have supported fish and wildlife management in the United States since 1937.

WHAT CAN YOU DO?

Fortunately, many Montanans are interested in wildlife and many of them enjoy both hunting and nonconsumptive uses of the wildlife resource. Thus, interest for wildlife and hunting in Montana is high—but it "pales rapidly" when matched against projected national demands on western states for food, fiber, energy and living space. Nationally, anti-hunting and anti-gun forces are very active. Attaining common unity between wildlife interest groups is vital. Interested Montanans will need to join together and *support* wildlife habitat and wise uses of the resource—if this heritage is to maintain a prominent position in Montana's future. The actions and attitudes of a well-informed and concerned public are vital if wildlife and hunting are to maintain a place in the DESIGN FOR MONTANA'S TOMORROW! Discussions of the status, objectives and problems of the major wildlife species, or groups of species, follow.

Big Game



Mule Deer and White-tailed Deer

Mule deer and whitetails are very popular not only from the standpoint of hunting, but also for providing year-round enjoyment to those observing them. Since 1971, they have provided from 0.8 to 1.2 million days of hunting recreation annually.

STATUS

Mule deer range over 90% of the state land area¹. Land ownership where they occur (statewide) is 38% public and 62% private. About 50% of the statewide mule deer harvest and 33% of hunting recreation comes from privately controlled land.

Whitetails inhabit 29% of the state¹. They occur in all seven regions, but over less extensive areas than mule deer. They have gradually been extending their range. Land ownership where they occur (statewide) is about 32% public and 68% private. More than 75% of the statewide whitetail harvest comes from privately controlled land.

Mule deer populations have fluctuated considerably throughout history; they were scarce over much of Montana in the mid-1930s. Peak statewide numbers

¹excluding national parks and Indian reservations

were reached in the 1950s and early '60s, followed by lowering densities as habitat conditions declined. Relatively high populations continued in some areas into the '70s. An extensive decline occurred in 1973-75 due to increasing hunting pressures, poor fawn survival, decreasing habitat and other factors. The decline was also widespread in neighboring states. Population increases were noted in many parts of Montana in 1977.

Whitetails reached peak numbers west of the Continental Divide between 1935-45, but were scarce east of the divide at that time. By the 1950s, whitetails were increasing east of the divide. Currently, despite some local summer die-offs, whitetail populations appear stable or are increasing east of the divide and are stable or decreasing west of the divide.

Deer management from the mid-1950s to early '70s was geared to balance high deer populations with overused winter habitat. Two-deer, either-sex seasons were common. From 1955-74, statewide annual mule deer harvests varied from 66,000-104,000. The number of deer hunters declined in 1975 with more stringent harvest regulations, an increase in license fees and tightened access to private lands. Buck-only seasons predominated in 1976 and 1977; mule deer harvests dropped to less than 27,000 in 1976 and 34,000 in 1977.

The number of big game archers has nearly doubled since 1971; in 1977 over 7,000 deer archers harvested 826 deer (12% success) and spent over 48,500 days afield.

Whitetail harvests ranged from 17,500 in 1955 to over 38,000 in 1973. Harvests decreased to 16,000 in 1976 and 20,000 in 1977 during conservative seasons to reduce pressure on mule deer (although either-sex whitetail seasons were maintained in most areas). Since 1975, whitetails have occupied an increasing portion—37%-38%—of the total deer harvest, compared to 20%-25% previously.

Deer hunting success (statewide) has traditionally been high. Before 1971, about 70% of all tags afield were filled; over 80% of individuals hunting usually bagged a deer (including whitetails). Deer hunters afield increased rapidly in the early 1970s, reaching a peak in 1973 (167,400) individuals with some 220,000 tags afield, including whitetails). During 1971-75, 56% of all deer tags afield were filled. As success drops, an increasing effort (days afield per deer harvested) is

required. During 1976 and 1977, statewide deer hunting success was 38% and 45%, respectively.

STATEWIDE OBJECTIVE (1977-82):

To provide 1,142,000 hunting days for mule deer and whitetails annually, with an average hunting success of 50% and effort of 12 days per deer harvested.

THE FUTURE

Short-term indications are optimistic. Mule deer fawn survival and populations are improving in many areas, although the high populations of the past two decades are not expected. Various factors continue to diminish mule deer habitat. The long-term outlook for deer will hinge upon the two species' capability to adapt to intensifying use of forest and agricultural land.

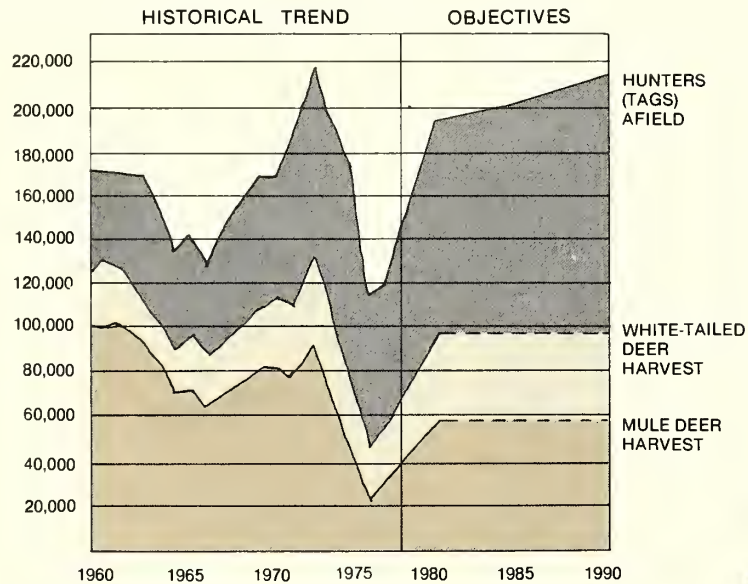
The statewide harvest objective of 58,000 mule deer by 1980 is 75% of the 10-year average for 1964-74. Whitetail populations represent a potential for hunting recreation that has not been reached. Objectives for 1980 spell out an increased role for whitetails. The statewide harvest objective of 40,000 whitetails exceeds the previous high of 38,700 in 1973 and the 10-year average of 26,000 for 1964-74.

Attainment and maintenance of these objectives will depend greatly on deer biology, habitat and weather conditions and solutions to access problems on private land.

Means are under way to improve and control distribution of hunters in time and space, particularly on private land in eastern Montana. The Landowner Relations/Sportsmen Access Advisory Council is making progress toward solutions to minimize recreationist damage and risk to private lands, while striving to maintain reasonable degrees of public access.

Basic changes in the deer licensing structure also will be necessary. The original purpose of the deer "B" tag was to direct additional harvest on specific deer populations, to reduce deer damage to private property, protect deer winter habitat from overuse and to provide

STATEWIDE TRENDS AND OBJECTIVES OF DEER HARVEST AND HUNTERS



REGIONAL DEER OBJECTIVES (1980)

REGION	YEAR	HARVEST		HUNTERS (TAGS) AFIELD	REC. HUNTING DAYS	HUNTING SUCCESS	EFFORT DAYS/ DEER
		MULE DEER	W.T. DEER				
1	1975	1,600	4,000	20,054	153,400	28%	27
	1980	1,800	6,000	23,500	203,000	33%	26
2	1975	4,000	2,100	26,372	175,700	23%	29
	1980	4,600	2,600	28,800	202,000	25%	28
3	1975	7,500	600	30,521	198,000	27%	24
	1980	9,700	1,000	36,000	227,000	30%	21
4	1975	7,000	5,300	37,500	188,900	33%	15
	1980	10,000	4,900	29,800	134,000	50%	9
5	1975	6,500	1,800	22,300	92,500	37%	11
	1980	8,000	2,500	21,000	84,000	50%	8
6	1975	2,900	3,200	13,400	55,600	47%	9
	1980	4,700	6,000	23,700	107,000	45%	10
7	1975	19,000	11,300	48,900	194,300	62%	6
	1980	20,000	17,000	46,200	185,000	80%	5
STATE-WIDE	1975	48,600	28,300	177,540	1,058,400	44%	14
	1980	58,000	40,000	195,000	1,142,000	50%	12

additional recreational harvest where ample harvestable deer supplies were available. The current higher cost of "B" tags (\$12 "B" tag, \$7 "A" tag) has the reverse effect. It is recommended that the price of "A" and "B" deer tags be equalized.

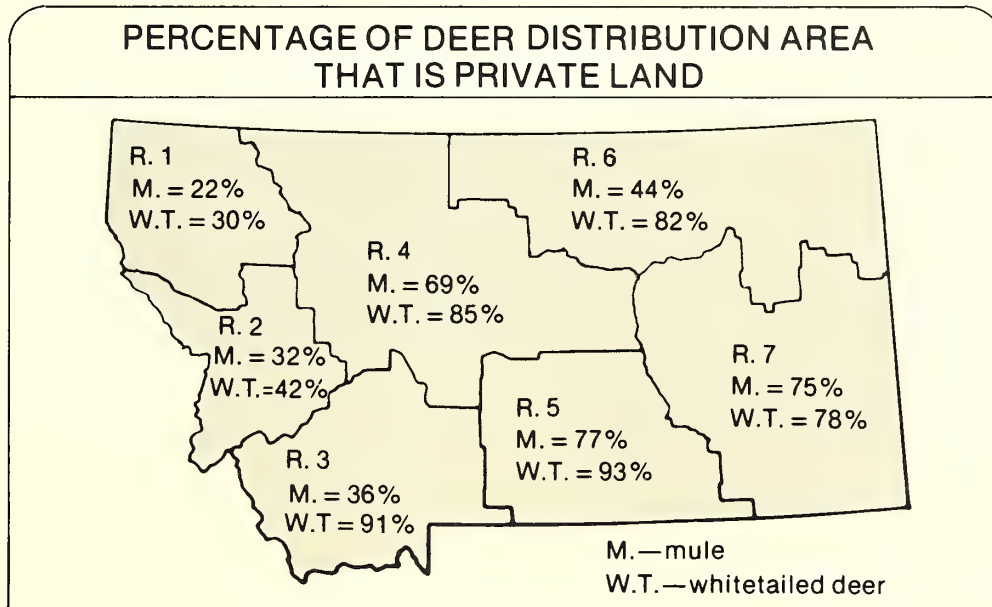
It is also recommended that: (1) the \$50 B-5 nonresident license be abolished and the \$50 B-7 and B-8 be maintained; (2) the \$1 wildlife conservation license be the prerequisite for all special licenses and permits, for residents and nonresidents alike, and (3) the nonresident B-2 combination (\$50) bird-fish license be abolished.

Deer hunting success will continue to vary across the state. The 1980 objective is to provide 25%-33% success in the western Regions 1, 2 and 3 (Kalispell, Missoula and Bozeman). Public lands are abundant there, but hunter competition for deer will increase and a higher effort (days afield) will be required per deer harvested. Conversely, in Regions 4, 5, 6 and 7 (Great Falls,

Billings, Glasgow and Miles City), the 1980 objective will be to provide a higher success (45%-80%). This will reduce the hunter days spent afield where private land predominates. Hunters opting for higher hunting success areas in central and eastern Montana will have to do their homework with private landowners early to ensure a place to hunt.

Whitetail management will require increased attention to the needs and potential of the whitetail as a separate, distinctive deer species and its close relationship with private lands. Increased emphasis on whitetails can provide additional opportunities to deer hunters. However, these opportunities will not be available unless better solutions to management of deer on private lands can be accomplished.

Increased use of limited deer permits will be necessary to control hunting pressure on private land and to prescribe more specific harvests to individual white-tailed or mule deer herds.



Big Game



Elk

The elk is a highly prized big game animal from the standpoint of its sporting qualities, size, palatable meat and trophy value. Since 1971, elk provided 500,000-700,000 days of hunting recreation to 70,000-90,000 hunters afield, annually. It is also a favorite animal for wildlife viewers.

STATUS

Elk occur on 28% of the state¹ and are present in six of seven fish and game regions. They are well distributed throughout the mountainous areas of western and central Montana and parts of the Missouri Breaks of northeastern Montana. Land ownership status where elk occur (statewide) is 73% public, 2% state school and 25% private. Regionally, public land ownership where elk occur exceeds 70% in Regions 1, 2, 3 and 6 (Kalispell, Missoula, Bozeman and Glasgow), and is 64% public in Region 4 (Great Falls) and 60% public in Region 5 (Billings). Slightly over 80% of the statewide

¹excluding national parks and Indian reservations

elk harvest is estimated to come from public land.

Elk declined over much of their historical range during early settlement of the state. During the 1930s and '40s, many existing herds increased and began expanding their range. Most of the state's elk herds currently have stable or increasing populations. Elk management, including acquisition of key winter ranges, has received emphasis and has been quite successful.

UTILIZATION

Since 1950, statewide elk harvests have generally ranged between 10,000 and 15,000. Annual harvests are strongly influenced by weather patterns during the fall hunt. Heavy snowstorms in early fall of 1973 resulted in a record harvest (16,900), while the extra mild fall of 1976 had one of the lowest harvests recorded (7,900). Over 13,000 elk were harvested in 1977.

A variety of hunting seasons are used in elk management. Either-sex seasons in portions of western Montana achieve adequate harvests in the more inaccessible mountain terrain. Bull seasons, short either-sex hunts and controlled permit seasons are necessary where hunting pressure needs more control.

Hunting demand for elk has been continually increasing. Elk hunters afield (statewide) increased from 70,300 in 1971 to 90,700 in 1975, including an increase of nonresidents afield from 9,750 to 18,000. In 1976, a 17,000 limit was placed on nonresident big game hunters and elk hunting fees were increased by the legislature. Nonresident elk hunters reported afield in 1976 and 1977 declined to 11,500 and 11,800, respectively. Elk hunters *afield* during the mild fall of 1976 dropped to 74,200, and increased to 79,600 in 1977.

Elk hunting success and effort varies considerably between years and between the regions of the state. The average statewide success for the past 7 years (1971-77) is 15% with an effort of 50 days reported afield per elk harvested, and has varied from 11% and 76 days (1976)

to 19% and 38 days (1973). The best average success and effort occurs in Regions 2 and 3 (Missoula, Bozeman) (15% and 48 days); the lowest is in Region 5 (Billings) (8% and 63 days). Region 6 (Glasgow) is an exception; hunting of smaller herds in more open terrain is limited to permits and success is high (65%-70%). Archery hunting is popular in Region 6.

STATEWIDE OBJECTIVE (1977-82):

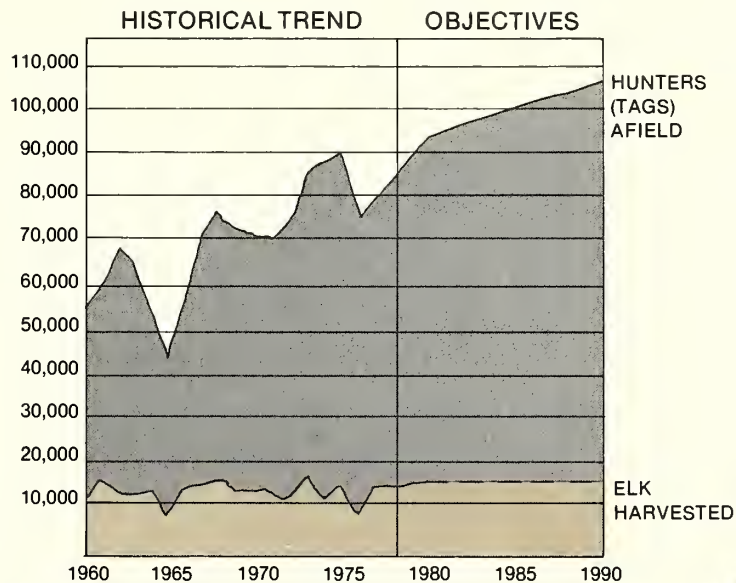
To provide 700,000 days of elk hunting annually at a hunting success rate of 16% and average effort of 48 days per elk harvested by 1980.

THE FUTURE

The short-term outlook for elk and elk hunting is good. A gradual increase in the annual harvestable supply is anticipated through 1980. The statewide objective for 1980 will provide enough harvestable elk to maintain the average success-effort (16% and 48 days) for an increasing number of hunters. However, the current rate of combined resident and *limited* nonresident demand for harvestable elk is expected to exceed the available supply before 1985.

The long-term future of elk and elk management will depend greatly on: (1) the nature and intensity of forestry and other land-use practices and (2) the capability of the state to acquire and manage land for increased elk populations. The department has demonstrated that elk populations can be sustained and enhanced for public benefit by acquisition of key habitats. Enhancing elk herds to meet future demands will require an increased commitment of public support and funding to dedicate and protect the necessary lands. With public support, an increase in the price of elk tags could be earmarked for elk range acquisition.

STATEWIDE TRENDS AND OBJECTIVES OF ELK HARVEST AND HUNTERS



REGIONAL ELK OBJECTIVES (1980)

REGION	YEAR	AVERAGES				
		HARVEST	HUNTERS (TAGS) AFIELD	REC. HUNTING DAYS	HUNTING SUCCESS	EFFORT DAYS/ ELK
1	1971-75	2,250	16,700	129,000	13%	57
	1980	2,500	18,200	140,000	13%	56
2	1971-75	3,900	24,600	172,200	16%	44
	1980	4,200	28,800	210,000	14%	50
3	1971-75	4,300	28,800	191,000	15%	44
	1980	5,000	32,000	220,000	15%	44
4	1971-75	2,100	17,900	103,600	12%	49
	1980	2,500	19,100	110,000	13%	44
5	1971-75	300	3,900	18,700	8%	62
	1980	400	4,600	24,800	8%	62
6	1971-75	73	100	500	73%	7
	1980	200	286	1,200	70%	6
7	1971-75	—				
	1980	—				
STATE-WIDE	1971-75	12,800		615,600	16%	
	1980	14,800		700,000	16%	48

Big Game



Antelope, Moose, Sheep and Goats

These four species add diversity to Montana's big game scene. Together, they provide over 80,000 days of unique quality hunting recreation to some 27,000 hunters afield per year, plus an uncounted amount of year-round recreation to wildlife viewers.

STATUS

Antelope inhabit 47% of the state¹, occurring in all fish and game regions except Region 1 (Kalispell). Land ownership where antelope occur is 75% private, 18% public and 7% state school lands. Over 75% of the statewide antelope harvest is derived from private lands. Antelope populations have been stable or increasing in many areas, except for certain local herds declining due primarily to habitat changes. The heavy snows of 1977-78 caused losses, but the extent has not been fully evaluated at this writing.

Moose inhabit 18% of the state¹ including Regions 1, 2, 3, 4 and 5 (Kalispell, Missoula, Bozeman, Great Falls and Billings). Land ownership where moose occur is 75% public and 25% privately controlled. An estimated 86% of the moose harvest comes from public land. Moose populations are reported as stable in most areas and increasing in some western hunting districts.

¹excluding national parks and Indian reservations

Mountain goats inhabit 4% of the state¹, including Regions 1, 2, 3, 4 and 5 (Kalispell, Missoula, Bozeman, Great Falls and Billings). Land ownership where goats occur is 94% public. Over 98% of the goat harvest is derived from public land. Mountain goat populations are stable or increasing in many districts, but decreasing or undetermined in others.

Bighorn sheep inhabit 3% of the state¹ and are present in all seven fish and game regions. Land ownership where wild sheep occur is over 95% public. Over 95% of the sheep harvest comes from public land. Bighorn sheep populations appear to be stable or increasing in most of the hunting districts.

UTILIZATION

A common characteristic these species share is that hunting is regulated by permits issued by public drawings. On a statewide basis, hunting demand exceeds the harvestable supply of these species.

Antelope harvests have been conducted on a permit system since 1943. Peak harvests (over 26,000) were reached in 1955 and 1964. From 1965-69 an average of 18,800 hunters (permits afield) harvested 14,200 antelope annually (hunter success, 72%). In the 1971-77 period, an average of 25,800 hunters afield harvested 18,300 antelope annually (hunter success, 71%). Over 46,000 applications for antelope hunting permits have been received in a single year (1974). Region 7 (Miles City) had 42% of the 1977 statewide antelope harvest; next were Region 5 (Billings), 25%; Region 4 (Great Falls), 14%; Region 6 (Glasgow), 12%, and Region 3 (Bozeman), 8%.

Moose harvests averaged 459 by 665 hunters (69% success) during 1965-69. From 1971-77, an average of 702 hunters afield bagged 472 moose annually (67% success). Total applications for moose permits increased from 13,007 to 16,806 from 1973-76. Region 3 (Bozeman) had 54% of the 1977 statewide moose harvest, followed by Region 1 (Kalispell), 29%; Region 2 (Missoula), 14%, and Region 5 (Billings), 2%.

Mountain goat annual harvests averaged 384 (243-513) for the 1959-69 period. From 1972-77, the average annual goat harvest was 265 (230-306) with a hunter

¹excluding national parks and Indian reservations

success of 51%. Applications for goat permits increased from 3,699 in 1973 to 4,674 in 1976.

Bighorn sheep annual harvests averaged 70 (55-80) for the 1959-69 period. From 1971-77, the average annual harvest was 99 sheep (79-120). Statewide hunting success for limited sheep permittees usually exceeded 70%. An "unlimited" number of permits is allowed in some districts where rugged terrain and difficult access severely limit hunters. These areas provide maximum hunting opportunity and recreation at very low hunting success (1%-5%). Applications for sheep permits increased from 2,619 in 1973 to 4,310 in 1976. Better utilization of certain herds has allowed a recent increase in numbers of permits available.

STATEWIDE OBJECTIVES (1977-82):

Antelope: To provide 96,000 days of hunting annually at a hunting success rate of 72%, with an effort of 4 hunting days per antelope harvested by 1980.

Moose: To provide 6,800 days of hunting annually at a hunting success rate of 70%, with an effort of 10 hunting days per moose harvested by 1980.

Mountain goats: To provide 3,100 days of hunting annually at a hunting success rate of 50%, with an effort of 9 hunting days per goat harvested by 1980.

Bighorn sheep: To provide 7,500 days of hunting annually at a hunting success rate of 75% and 5% with an effort of 9 and 165 days per sheep harvested, in limited and unlimited hunting areas, respectively, by 1980.

THE FUTURE

Attainment of 1980 objectives will depend on the degree of success in finding solutions to specific problems.

Increased utilization of antelope will depend greatly on improving access and hunter distribution on private lands, particularly in Regions 5 and 7 (Billings and Miles

City). Heavy winter losses in 1977-78 may preclude attainment of some regional harvest objectives for 1980.

Increased harvests of moose will require more effort to improve distribution of hunters into less accessible moose habitat, improved moose population information in specific areas and a significant reduction of illegal moose kills (primarily during elk hunting seasons).

More intensive mountain goat population surveys over extensive areas are needed to evaluate the impact of current and proposed harvest rates and land-use encroachments on goat habitat.

Higher sustained harvests of specific herds of bighorn sheep are possible and desirable to minimize habitat deterioration and lung worm disease. This will require modification of current regulations, such as the 7-year waiting period after bagging a ewe and the 3/4-curl regulation in some areas.

Improved information on populations and habitat status will be needed on all four species for the higher intensity of management required to meet future objectives. Six-year objectives are to increase the available supply of harvestable antelope, moose, goats and sheep to maintain current hunting opportunity and success. Increasing demand for hunting permits is expected to exceed supply, necessitating restrictive permit systems and waiting periods for prospective hunters.

The long-term outlook for antelope populations will depend on range management practices on public and private land and intensities of and changes in agriculture.

Future moose, mountain goat and sheep populations will depend on the nature and intensity of forest land-use management.

STATEWIDE HUNTING TRENDS AND 1980 OBJECTIVES (ANTELOPE, MOOSE, MOUNTAIN GOATS, BIGHORN SHEEP)

SPECIES	TIME PERIOD	AVERAGES				
		HARVEST	HUNTERS (TAGS) AFIELD	HUNTING SUCCESS	HUNTING DAYS	EFFORT DAYS/ ANIMAL
ANTELOPE	1971-1975	18,700	26,600	70%	69,700	3.7
	1976-1977	17,400	23,800	73%	71,200	4.1
	1980	25,500	35,400	72%	96,000	3.8
MOOSE	1971-1975	505	726	70%	5,000	10.0
	1976-1977	389	642	61%	4,500	12.0
	1980	685	968	70%	6,800	10.0
MOUNTAIN GOATS	1971-1975	264	545	48%	2,600	10.0
	1976-1977	266	455	58%	2,300	9.0
	1980	345	690	50%	3,100	9.0
BIGHORN SHEEP	1971-1975	65 ^L	87 ^L	75% ^L	583 ^L	9.0 ^L
		28 ^{UL}	648 ^{UL}	4% ^{UL}	5,268 ^{UL}	188 ^{UL}
		93 ^{TOTAL}	735 ^{TOTAL}		5,851 ^{TOTAL}	
	1976-1977	91 ^L	119 ^L	76% ^L	788 ^L	9.0 ^L
		22 ^{UL}	482 ^{UL}	5% ^{UL}	3,231 ^{UL}	147 ^{UL}
		113 ^{TOTAL}	601 ^{TOTAL}		4,019 ^{TOTAL}	
1980	167 ^L	220 ^L	75% ^L	1,500 ^L	9.0 ^L	
	36 ^{UL}	780 ^{UL}	5% ^{UL}	5,964 ^{UL}	165 ^{UL}	
	203 ^{TOTAL}	1,000 ^{TOTAL}		7,464 ^{TOTAL}		
NOTE: L-limited permits UL-unlimited permits TOTAL-total limited and unlimited permits						

Big Game



Black Bear, Grizzly and Mountain Lion

These large mammals add variety to big game populations in Montana. They can be trophies to a hunter, provide exciting observations to a wildlife viewer or cause trouble where man's activities impact their range. All three are unique and important components of Montana's wild land fauna.

STATUS

Black bears are widely distributed from the timbered portions of western Montana into foothill areas east of the divide. They inhabit about 26% of the state¹; a majority of their range is public land. Intensive population studies of black bears in northwestern Montana have provided basic information for bear management. Because of their secretive nature and use of heavy cover, knowledge of their population trends over extensive areas is limited.

Grizzly bears occur in some of the more rugged mountain areas of northwestern, western and southwestern Montana. They inhabit about 7% of the state¹, primarily public land. Considerable controversy exists as to the population status of grizzlies. Since 1975,

¹excluding national parks and Indian reservations

the grizzly has been classified "threatened" under the Endangered Species Act. Intensive field research by several federal and state agencies will upgrade knowledge on their population status and life requirements.

Mountain lions have been reported in all seven fish and game regions of the state. However, most notable populations are found in the rugged mountainous areas of western Montana; lions are uncommon in eastern Montana. Increased efforts are under way to improve the scanty knowledge of lion distribution and population status.

UTILIZATION

The annual statewide black bear harvest has varied considerably, ranging between about 900 and 2,100 since 1959. Since then, spring hunting has been allowed for black bear, in addition to the conventional fall hunting season. About 50% of the harvest occurs during the fall. Hunter success generally ranges between 20%-25%. The greatest portion of the 1975 harvest (61%) occurs in Region 1 (Kalispell), followed by Region 2 (Missoula), 21%; Region 3 (Bozeman), 10%; Region 4

(Great Falls), 5%, and Region 5 (Billings), 3%. The demand for black bear hunting is expected to increase.

Grizzly bear hunting is allowed in Regions 1, 2 and 4 (Kalispell, Missoula and Great Falls); Region 3 (Bozeman) has been closed since 1974. The statewide annual harvest is limited to 25 (including both known, man-caused grizzly mortalities and sport hunting). Unlimited licenses are issued, but strict monitoring of the harvest closes the season on 48-hour notice, when the harvest quota of 25 is attained. In addition to a grizzly hunting license, a trophy license is required for a harvested grizzly. Grizzly hunting success is low—1%-2%. Northwestern Montana provides most of the harvest.

Mountain lions received game animal status in 1971. Since then, annual lion harvests have varied from 51-91. A lion hunting license is required and a trophy license is necessary after a lion is harvested. In 1976, nearly 600 hunters pursued lions for sport with 12% success.

THE FUTURE

The statewide, harvestable supply of black bears presently exceeds current and anticipated sport hunting

STATEWIDE OBJECTIVES (1977-82):

Black bear: To provide 59,000 days of black bear hunting annually at a hunting success rate of 22% and an average effort of 35 days per black bear harvested, by 1980.

Grizzly bear: To maintain grizzly distribution in all currently occupied habitat and sustain their populations within safety tolerances for human health and private property. To provide sufficient, harvestable grizzlies annually from all available huntable populations to provide 5,000-6,000 days of grizzly hunting opportunity at a hunter success rate of 1%-3%, by 1980.

Mountain lion: To develop improved techniques for ascertaining lion population trends and effects of sport hunting. To provide 1,500 days of mountain lion hunting annually at a hunting success rate of 1 lion harvested per 6 licenses and an average effort of 19 days per lion harvested, by 1980.

demand. Improved information on black bear populations and effects of land use and increased rates of harvest will be needed. Black bear control efforts will be continued to minimize their nuisance, damage or threat to private property and humans. Increased human habitation into bear habitat is discouraged. A sustained level of annual, sport hunting will help reduce the need for direct bear control.

Maintaining grizzlies will require continued field studies to identify their habitat, population status and effects of land uses and man-caused mortalities. Carefully controlled hunting is important to maintain or

increase the bear's wariness of humans and to harvest part of the population otherwise likely to be removed illegally or in response to depredation complaints. Education efforts to minimize bear-people conflicts are necessary.

Improved information on lion distribution, population status and trends and effects of forest land uses and lion harvest rates are needed.

Extensive expansion of forest road systems tend to reduce the security of lion and bear habitat. These species will require increased consideration in forest land management.

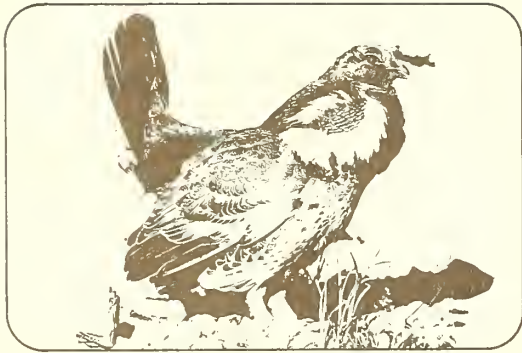
STATEWIDE HUNTING TRENDS AND 1980 OBJECTIVES

(BLACK BEARS, GRIZZLY BEARS, AND MOUNTAIN LIONS)

SPECIES	TIME PERIOD	AVERAGES				
		HARVEST	HUNTERS AFIELD	HUNTING SUCCESS	HUNTING DAYS	EFFORT DAYS/ ANIMAL
BLACK BEAR	1971-76	1,312	6,140	21%	49,500	38
	1980	1,700	7,600 ¹	22%	58,600	35
GRIZZLY BEAR	1971-76	16	684	2%	4,800	300
	1980	15	800	2%	5,600	370
MOUNTAIN LIONS	1971-76	69	450 ²	15%	1,350	19
	1980	80	500	16%	1,500	19

¹Not including additional nonresidents hunting black bear with \$225 big game license.
²Licenses sold.

Small Game



Native Grouse

Montana has five species of native grouse that are game birds. During 1975-77, these mountain and prairie-dwelling grouse provided about 60% (212,000 days) of the upland game bird hunting recreation enjoyed by over 50,000 bird hunters afield, annually. The springtime courtship displays of the native grouse are favorite sights of bird watchers and wildlife admirers.

STATUS

Mountain grouse (blue, ruffed, and spruce) collectively inhabit about 29% of the state¹. National forests provide a major share of their habitat. However, foothill areas important for blue grouse brood raising and brushy stream bottoms used year-round by ruffed grouse are often private land.

Prairie grouse include sharptails and sage grouse. Much prairie grouse habitat is privately controlled. The Great Plains sharptail is most abundant in eastern and central Montana where prairie and foothill grass lands are in reasonably good condition. Only marginal populations of sharptails exist where grass lands are heavily grazed and/or extensively cultivated. Sharptails inhabit about 64% of the state¹. Remnant populations of the Columbian sharptail exist in a small area of valley

¹excluding national parks and Indian reservations

grass land in northwestern Montana; sharptail hunting is not allowed in that region.

Sage grouse, the largest grouse in North America, inhabit over 38% of Montana¹. They depend upon sagebrush/grass land ranges for food and cover; sagebrush leaves provide them with food during the harsh, prairie winters.

UTILIZATION

Native grouse are major components of Montana's upland game bird hunting scene, composing 62% of the statewide upland game bird harvest from 1967-77. Mountain grouse hunting extends from early September through late November to provide optimum hunting opportunities. Prairie grouse seasons are usually opened in early September at a time when early fall precipitation and cooler temperatures are expected on range lands. Season lengths vary across Montana according to abundance of prairie grouse and considerations for private land.

THE FUTURE

Mountain grouse could provide increased hunting

opportunity on public lands. Long-term and local supplies of mountain grouse will be influenced by changes in the intensity of timber and grazing management on forest lands. The department will continue to provide input and seek cooperation in land-use planning and management that impacts grouse habitats.

Prairie grouse can provide additional hunting opportunity, particularly on the scattered public range lands of eastern Montana. The future of sharptails and sage grouse, and hunting and nonconsumptive enjoyment provided by their populations, will hinge greatly upon range management practices and access to public and private lands. The department will continue to provide advice and encourage consideration for these species in management of public and private range lands.

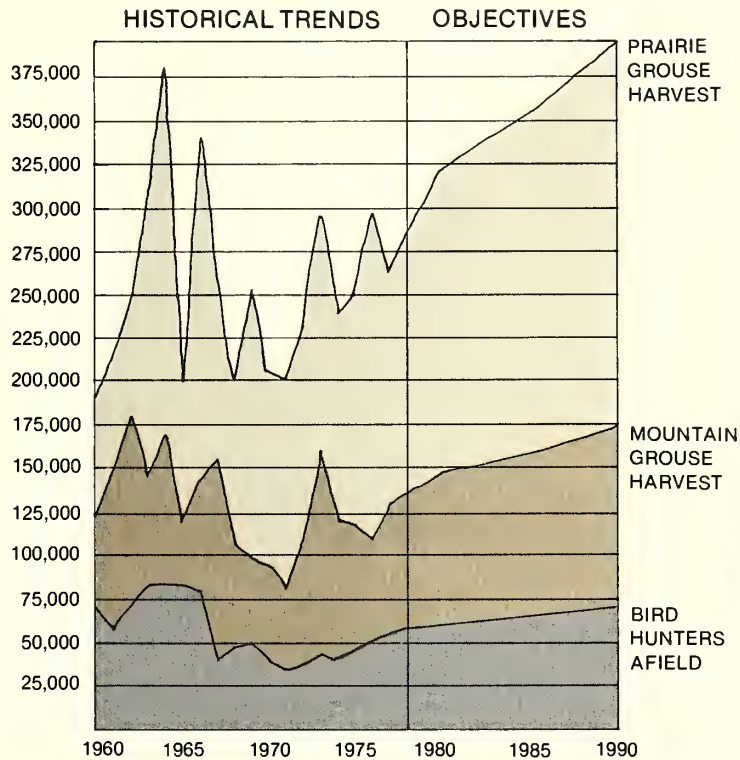
The department is seeking ways to maintain a reasonable degree of public access to private lands which game birds inhabit. The Landowner Relations/Sportsmen Access Advisory Council is working hard at finding solutions.

STATEWIDE OBJECTIVES (1977-82):

Mountain grouse: To provide 149,000 days of hunting annually at a rate of hunter effort of 1.0 days per grouse harvested, by 1980.

Prairie grouse: To provide 111,000 days of hunting annually at a rate of hunter effort of .6 days per sharptail and .7 days per sage grouse harvested, by 1980.

STATEWIDE TRENDS AND OBJECTIVES OF NATIVE GROUSE HARVEST AND HUNTERS



STATEWIDE HUNTING TRENDS AND 1980 OBJECTIVES (NATIVE GROUSE)

SPECIES	TIME PERIOD	AVERAGES			
		HARVEST	BIRD HUNTERS ¹	HUNTING DAYS	DAYS PER BIRD
MOUNTAIN GROUSE (BLUE, RUFFED, SPRUCE)	1970-1974	115,000	31,900 ²	-	-
	1975-1977	120,100	37,400	118,200	1.0
	1980	149,000	40,200	149,000	1.0
PRAIRIE GROUSE (SHARPTAILS, SAGE GROUSE)	1970-1974	121,000	29,000 ²	-	-
	1975-1977	148,700	37,300	92,200	.6
	1980	175,000	41,100	111,000	.6

NOTES: 1. Bird hunters afield in regions hunted
2. Residents only

Small Game



Introduced Birds

Four introduced species of game birds—ring-necked pheasants, Hungarian partridge, chukar partridge and Merriam's turkeys—play an important role in providing Montana's bird hunters, bird watchers and wildlife appreciators with recreation and enjoyment. During 1975-77, these species provided about 40% of the upland game bird hunting enjoyed by over 50,000 bird hunters afield, annually.

STATUS

The ring-necked pheasant was introduced in the early 1900s and began thriving, partially because of the agricultural practices of the late 1920s and '30s. By 1940, the pheasant became the state's most popular game bird. In the early 1960s, pheasant populations began to decline in many areas, primarily because of changes in agricultural practices. Decreasing acreages of grain crops and increasing hay land, livestock and "clean farming" diminished pheasant cover. The pheasant is currently distributed over about 13% of Montana, mostly on privately controlled agricultural land. About two-thirds of the current pheasant habitat is considered "marginal," supporting only low densities of birds and providing only "fair" hunting in local areas.

The Hungarian partridge was introduced throughout the state between 1922 and 1926; earlier transplants were made in neighboring Canadian provinces. This species has filled diverse habitats throughout prairie and

agricultural valleys of Montana. Currently, "Huns" inhabit about 75% of Montana—much of which is considered "marginal" habitat providing only fair hunting, depending on year-to-year population fluctuations.

The chukar partridge was introduced in numerous places throughout Montana between 1933 and 1958, but it has been able to survive in only a few scattered locations. Despite the chukar's prolific potential, it has not been able to cope with Montana's severe winters in most areas. Currently, distinct chukar areas are limited to about 2% of the state. The majority are found in Region 5 (Billings), especially Carbon County and scattered areas of Regions 1 and 2 (Kalispell and Missoula).

Merriam's turkeys were first introduced in 1954. Original plants in the Long Pines area of southeastern Montana thrived and subsequently provided wild turkeys for transplanting throughout Montana. Currently, turkeys inhabit about 4% of Montana'. Populations of some of the initially successful transplants have since declined. Severe winters eventually have curtailed the success of turkey populations that spread into marginal habitat. About 80% of their current distribution area is rated as "good" to "superior" habitat. Turkeys have not adapted well in western Montana; turkey hunting was discontinued there. Existing flocks will provide nonconsumptive enjoyment.

UTILIZATION

The ring-necked pheasant has had the greatest impact of the exotic birds successfully transplanted into Montana. Between 1948 and 1964, estimated statewide pheasant harvests ranged between 169,000 and 393,000 birds, shared annually by 40,000 to over 70,000 hunters afield. By 1965, pheasants, pheasant harvests and pheasant hunters were declining. The statewide harvest during 1970-74 averaged 74,000 pheasants, ranging from 96,300 in 1970 to a low of 48,400 in 1974. Since then, harvests have improved, exceeding 102,000 in 1977.

Hungarian partridge adapted to agricultural changes better than pheasants or sharp-tailed grouse. Between 1958 and 1969, statewide Hun harvests averaged 74,000

'excluding national parks and Indian reservations

birds annually; the average dropped to 41,000 in 1970-74. In 1976 (and 1977), the statewide Hun harvest (103,900) exceeded the pheasant harvest for the first time. The Hun's sporting qualities as a game bird are apparently receiving increased recognition.

Chukar partridge hunting was first allowed in 13 eastern counties in 1959. Since then, chukar hunting has been permitted statewide, in conjunction with Hungarian partridge seasons. Estimated statewide chukar harvests have varied from 600-4,500 since 1960. Currently, about 90% of the chukar harvest is reported from Region 5 (Billings). Chukars provide a unique hunting experience to those ardent bird hunters willing to pursue this elusive game bird in rough terrain.

The Montana turkey story is a classic example of how sustained yields of wildlife can be provided by annual hunting where suitable habitat exists. In 20 fall hunting seasons since 1958, over 10,200 turkeys have been harvested, providing over 87,000 days of turkey hunting. From 1958-69, the average annual turkey harvest was 475. Peak harvests exceeded 900 turkeys in 1963, 1965 and 1975. During the fall seasons of 1975-77, an average of 2,362 hunters harvested 850 turkeys (36% success) annually.

Spring gobbler hunting has been allowed since 1962 in some areas. A small fraction of the gaudy-colored "Tom" turkeys are harvested each spring—at a time when the nesting females are secretive and wary.

STATEWIDE OBJECTIVES (1977-82):

Ring-necked pheasant, Hungarian partridge, chukar partridge: To provide 132,000 days of hunting at a rate of hunter effort of 1.1 days per ring-necked pheasant, .7 days per Hungarian partridge and .8 days per chukar partridge harvested, by 1980.

Merriam's turkey: To provide annually 8,000 days of Merriam's turkey hunting at a success rate of 34% and an average effort of 8 hunting days per harvested turkey, by 1980.

THE FUTURE

The ring-necked pheasant is no longer the "Number 1" game bird in Montana in terms of total harvests.

Prospects for a significant increase in the future supply of harvestable pheasants look dim, in view of intensifying land-use trends and dependence on private land for hunting. The department will continue to provide advice and encourage land uses favorable to pheasants. Some type of economic incentive to private landowners is probably necessary before significant improvements in pheasant habitat can be expected.

The department spends license money raising and releasing game farm pheasants, which is neither biologically nor economically sound. The practice requires the price of several bird licenses to provide one harvested bird. If the public wants this practice continued, some manner of defraying the cost—perhaps by charging those few that are benefiting—appears in order.

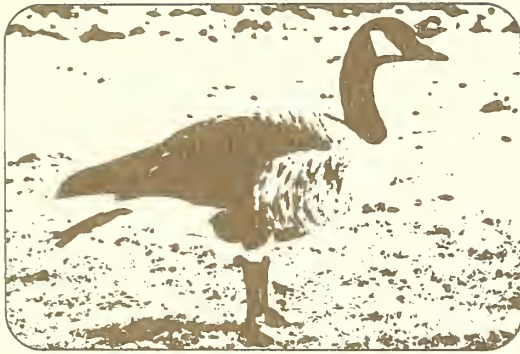
The statewide supply of harvestable Hungarian partridge far exceeds current and anticipated hunting demands. The Hun's wide distribution makes it available to hunters and wildlife admirers over extensive areas of private and public lands. The little Hun has the best capability to maintain itself over extensive areas, despite land use changes, and has the potential to attain top popularity of the upland game birds.

The supply of harvestable chukars exceeds current and anticipated hunting demands. However, the best huntable areas are relatively small and are mixed private and public lands. The amount of suitable habitat is limited and has probably reached its capacity for chukars. Existing chukar populations could provide more hunting. The department will continue special, late fall seasons that provide public opportunity to see and hunt chukars and maintain compatibility with private landowners.

The statewide harvestable supply of wild Merriam's turkeys exceeds current demands for hunting. An increase in turkey hunters is expected in eastern Montana. The number and distribution of turkey hunters and harvest on private lands will require special attention. Land uses, such as heavy grazing and timber removal, are impacting turkey habitat in some areas and energy development threatens additional areas. The department is identifying habitat areas critical for turkeys and will encourage consideration for their welfare on both public and private lands.

STATEWIDE HUNTING TRENDS AND 1980 OBJECTIVES (UPLAND GAME BIRDS)					
SPECIES	TIME PERIOD	AVERAGES			
		HARVEST	BIRD HUNTERS ¹	HUNTING DAYS	DAYS PER BIRD
PHEASANT	1970-1974	74,000	41,000 ²	—	—
	1975-1977	82,900	51,900	77,200	.9
	1980	78,000	60,600	86,000	1.1
HUNS	1970-1974	40,900	41,000 ²	—	—
	1975-1977	88,100	51,900	54,100	.6
	1980	64,000	60,600	45,000	1.1
CHUKARS	1970-1974	1,400	4,300 ³	—	—
	1975-1977	1,400	4,200 ³	1,600	1.1
	1980	1,200	5,600 ³	1,200	1.0
TURKEYS	1970-1974	516	1,330	3,400	6.6
	1975-1977	850	2,362	6,500	7.7
	1980	1,025	3,000	8,200	8.0
NOTES:		1 Bird hunters afield in regions hunted 2 Residents only 3 R. 5			

Small Game



Waterfowl and Furbearers

Montana has a wide variety of waterfowl including ducks, geese and other migratory game birds. Waterfowl provided over 225,000 days of hunting recreation annually from 1975-77. Waterfowl also provide significant amounts of year-round bird watching and aesthetic enjoyment for many people. Furbearers include those native mammal species whose pelts are currently or potentially of commercial value.

STATUS

Over 30 species of ducks, some resident and many migrant, occur in Montana. Four species of geese pass through Montana, but only Canada geese are resident breeders. In the fall, ducks and geese are distributed over 50% of Montana¹. Even in severe winters, congregations of mallards, goldeneyes, redheads and Canada geese inhabit the limited open water areas of Montana.

Montana borders Canadian provinces which offer some of the best waterfowl breeding range in North America. Montana is split into two flyways, the Pacific and Central. The best natural waterfowl breeding areas in Montana are in the glaciated prairie areas of Region 6 (Glasgow) and portions of the lower Flathead Valley.

¹excluding national parks and extensive forest areas

The numerous stock-watering ponds and reservoirs of eastern Montana contribute significantly to waterfowl production.

Other migratory game birds include the whistling swan, little brown crane, coots, mergansers, rails and Wilson's snipe.

Some of the prime wetland habitat is publicly owned. Included are state waterfowl management areas such as Freezout, Ninepipe, Pablo, Warm Springs, Fox Lake and federal waterfowl refuges such as Bowdoin, Benton Lake, Medicine Lake, Red Rocks Lake, Ninepipe and Pablo. These public areas provide hunting and excellent opportunities for bird watching and photography. Many land and water areas used by waterfowl during the fall are privately controlled. Agricultural lands provide a significant amount of hunting, particularly for the favored species, Canada geese and mallards.

UTILIZATION

The annual waterfowl harvest in Montana currently ranges between about 180,000-230,000 ducks and 12,000-14,500 geese. About 70% of the duck harvest and over 60% of the goose harvest occurs in the Pacific Flyway portion of Montana. The Pacific Flyway

includes approximately the western third of Montana and has about 70% of the 25,000 waterfowl hunters afield. The Central Flyway portion has less waterfowl hunting pressure, but hunters there enjoy the highest success in bagging both ducks and geese. Private lands provide some of the best waterfowl hunting in the Central Flyway.

Hunting of whistling swans is allowed only in Teton County; 500 permits are allowed and between 100-225 swans are harvested annually. Hunting of little brown cranes is allowed in Phillips County and about 50 cranes are taken annually.

The wide diversity of waterfowl species seasonally present makes public waterfowl areas increasingly popular to hunters, wildlife viewers and photographers.

Furbearers provide commercial return as well as hunting, trapping and nonconsumptive uses to the public. Included are those fur-bearing animals listed in current fish and game laws—marten, otter, muskrat, fisher, mink, beaver and bobcat; predatory animals—coyote, weasel and skunk, plus raccoon, badger, fox, lynx and wolverine. Some of them also cause conflicts with agricultural interests, private property and can carry disease to man and livestock.

STATEWIDE OBJECTIVES (1977-82):

Waterfowl (Pacific Flyway): To provide annually 217,000 days of waterfowl hunting at a rate of 1.4 ducks bagged per day, .2 geese per day and .1 swans per day, by 1980.

Waterfowl (Central Flyway): To provide annually 73,000 days of waterfowl hunting at a rate of 1.9 ducks bagged per day and .25 geese per day, by 1980.

Furbearers: To upgrade basic furbearer management information on an extensive basis, including implementing management plans for the bobcat and other selected species.

To provide 150,000 trapping days annually, by 1980.

To assess the demand for recreational uses of furbearers.

To minimize conflicts with specific furbearers and human health, private property or agricultural values.

The number of licensed trappers is increasing: 3,400 were reported afield in 1977 compared to 2,048 in 1976, 1,336 in 1975 and 565 in 1970. Increased prices for long-haired furs have stimulated interest in trapping.

Coyote and fox comprised about 12% by number and a high percentage of the monetary value of some 142,900 pelts of 14 species reported taken in 1976-77. Estimates of the number of these species taken by hunting and predator control are not available, but probably exceed the trapping take by many times because of high fur prices.

THE FUTURE

Increases in duck and goose hunting demand are expected; the current statewide supply of harvestable ducks and geese (except certain local flocks) exceeds current and anticipated hunting demand in Montana. Availability of waterfowl hunting space, particularly for geese, is decreasing. The department will continue striving to find ways to maintain reasonable degrees of public access to private lands where waterfowl occur.

Waterfowl habitat is lost due to intensifying land uses. The department will encourage any federal or state programs that provide incentive and direction for improving the management of private or public lands to benefit waterfowl.

Federal regulations may eliminate use of lead shot and replace it with steel. Department studies are continuing to determine the extent that ingested lead pellets may cause waterfowl mortality in Montana. Possible problem areas will be identified and solutions on a case-by-case basis, rather than "blanket" restriction on use of lead shot, will be urged.

Upgraded studies of furbearer population status, habitat requirements and effects of harvesting and/or population control are under way. Management plans associated with reclassification of the bobcat as a furbearer have been implemented. The department recommends that the lynx and wolverine be reclassified as furbearers to provide for protection and management of these species. We are continuing to study coyote-prey relationships. Cooperation with appropriate health and agricultural authorities to minimize or eliminate effects of diseases vectored through furbearers to man or livestock will be continued.

Inflated fur values have increased interest in "predator" hunting, particularly for coyote and fox. No estimates are currently available as to the number of participants, volume or value of take or time spent hunting. A nominally priced license for persons hunting coyotes and foxes, on public lands or private lands of others, would provide a means of assessing hunting pressure, success, magnitude and distribution of resident and nonresident participants, and also indicate trends in coyote and fox populations.

The department is recommending establishment of a nonresident trapping license and an increase in the resident trapping license fee (it has cost \$10 for over 30 years) to the 1979 Montana Legislature.

Increased license income from furbearer trapping and hunting of coyotes and foxes would support additional research and management efforts needed for fur-bearing species.

Nongame



While most Montanans and many visitors are attracted to our game animals, the majority of the state's wildlife falls into the nongame category. State law defines nongame wildlife as "any wild mammal, bird, amphibian, reptile, fish, mollusk or crustacean or other wild animal not otherwise legally classified by statute or regulation of this state" (Sec. 26-1802 [6] R.C.M. 1947). Passage of this legislation reflects a genuine concern for nongame wildlife in Montana and mandated the department to initiate a nongame management program. Unfortunately, our current knowledge of nongame species is inadequate to properly implement management techniques.

STATUS

Nongame classification includes an estimated 750 species—76 mammals, 306 birds, 16 reptiles and 16 amphibians (plus aquatic species discussed in the section on the Fish Program). Some species are widespread and abundant, while others are rare and restricted by unique or special habitat requirements. In many cases, the range and habitat associations are poorly understood or completely unknown.

UTILIZATION

Nonconsumptive uses of wildlife, such as bird watching and photography, have long been popular

pastimes for many people. Nationwide, more people are participating in these recreational pursuits. Recent department surveys of over 5,000 households indicate the importance of nonconsumptive uses of wildlife in Montana—43% of Montanans (ages 16-60) participated in wildlife viewing; 21% participated in wildlife photography and 34% of campers stated that the opportunity to observe wildlife was a major reason for camping. Another survey indicated that approximately 70% of Montanans make special efforts to observe wildlife in its natural setting.

The recreational value of nongame wildlife has received little recognition. Both consumptive and nonconsumptive uses are apparent, and relate directly to our need to conserve nongame wildlife.

Rabbits and hares are hunted for food, sport and commercial uses. In particular, cottontails could provide more hunting recreation in the future.

The pelts of foxes, raccoons and badgers all have commercial value. Recent high fur prices have added a new dimension to their importance. The foraging or burrowing habits of some species, such as prairie dogs and ground squirrels, cause them to be viewed as economic liabilities to farmers and ranchers. These animals are sometimes poisoned.

Currently, hundreds of species of nongame vertebrates (animals with backbones) inhabit Montana. Although most have little consumptive value, they are all integral parts of Montana's widespread, diverse wildlife community.

Raptors (hawks, eagles and owls) were once viewed as undesirable predators of game animals and livestock. Raptor research over the years has clarified the ecological importance of these species and demonstrated their beneficial influences; raptors are fully protected today. Those who enjoy the ancient sport of falconry utilize raptors for hunting.

Nongame species possess immense value as "indicator species"—those which display symptoms of degradation in the natural systems which they occupy. Through studying the relative abundance of several species within a particular wildlife community, researchers can determine the health and stability of the entire system. They may also serve as the yardstick by which success or failure of reclamation efforts may be measured.

WHAT HAS BEEN DONE?

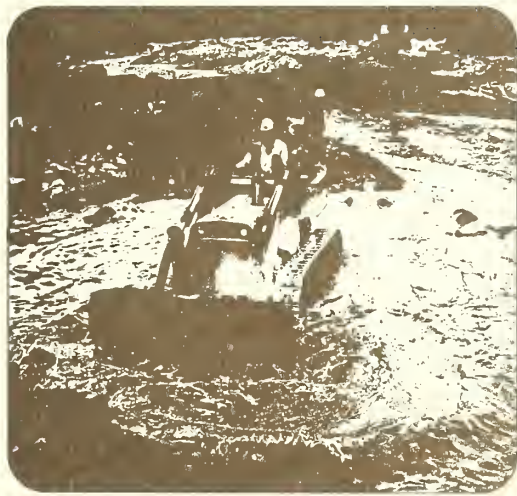
The welfare of Montana's nongame wildlife has long been of concern to the department. In 1952, we sponsored a study of the effects of insecticides on songbirds in southeastern Montana. Studies have also been completed on magpies, skunks, gulls and the effects of sagebrush destruction on small mammals and birds. Based on this and other research, some pesticides and practices have been discontinued. The department is continuing cooperative efforts to seek safer uses of pesticides.

Wildlife management areas have been purchased by the department or administered through cooperative agreements with other government agencies. The primary purpose for these acquisitions is to manage habitat for game animals specifically, and all wildlife in general. The acreage now owned by the department provides food and cover for a wide array of wildlife species. In addition to hunting, bird watching, hiking, photography and scientific studies have increased on these areas. They also serve as demonstration areas of wildlife habitat maintenance and enhancement for private and public land managers and the public.

Educational efforts continue to keep citizens aware of



ongoing land management practices which impact wildlife habitat. In an era of intensifying land use, people must recognize those uses which severely alter or eliminate essential wildlife habitat. Primary among these are undesirable plant management programs, stream alteration and dewatering, subdivision of prime agricultural and wildlife land for human habitation, pollution of water and air, energy developments, etc. These uses are expected to expand during the foreseeable future.



When the state legislature appointed the department as the agency responsible for protecting and managing Montana's nongame wildlife in 1973, it did not provide funding for any ensuing programs. License dollars from hunters and fishermen have since been the main support for nongame work. In 1975, Montanans were extended the opportunity to fund nongame studies by purchasing annual nongame certificates (\$5 each). Less than 300 such certificates were sold through the end of the 1977 license year. Thus, sportsmen continue to support nongame efforts in Montana.

Since the current nongame project was started in 1974, a basic plan for a nongame management program

has been formulated and limited field studies begun. Volunteer citizen efforts have contributed greatly to initial field studies. Eagle, hawk and turkey vulture numbers and distribution are noted in winter and summer via the Raptor Survey Route System. Many department personnel, bird club members and other citizens participate in this statewide effort. These and other citizens also provide data on burrowing owl numbers and locations.

Nongame studies are divided into two major categories: (1) species of special interest or concern and (2) endangered species. A nongame species is placed in the first category if its status is undetermined and if it is rare, restricted or sensitive to environmental disturbance. The list of species of special interest or concern is modified as additional information becomes available. This procedure allows the list to remain quite flexible, which in turn facilitates our ability to meet rapidly changing conditions involving each species. The 1978 list includes 28 kinds of mammals, 26 of birds, 4 of reptiles, 5 of amphibians and 7 of fish.

As field investigations reveal the true status of these species and shed additional light on their habitat requirements, these may become the subject of management efforts or may be removed from the list if their status seems secure.

NONGAME SPECIES OF SPECIAL INTEREST OR CONCERN

The following partial list of nongame species of special interest or concern illustrates some of the research and management needs our program currently faces:

- Merriam's shrew (*Sorex merriami*)—An extremely rare shrew whose range and habitat requirements are poorly understood. Only five records of this species exist from 1890-1976. Nongame research in 1977 recorded an additional three records on two habitat-specific study plots.
- Spotted bat (*Euderma maculatum*)—One of the rarest mammals in North America, current evidence suggests this species may occur in south central Montana. Joint Bureau of Land Management-Department of Fish and Game efforts will be made to ascertain the presence of this species in Montana and

management efforts will be implemented to maintain this species.

- Big-eared bat (*Plecotus townsendii*)—Two eastern subspecies have recently been added to the endangered species list. The status of the species in Montana is unknown. Colonies with young are extremely susceptible to disturbance.
- Hoary marmot (*Marmota caligata*)—A rare species in Montana, the hoary marmot is restricted to alpine habitats in western Montana. Even in suitable habitat this species is rare, except in Glacier National Park.
- White-tailed prairie dog (*Cynomys leucurus*)—This species is restricted to a small area in south central Montana. Fifteen colonies encompassing 700 acres have been located in Montana. Unlike the black-tailed prairie dog, the white-tailed prairie dog hibernates in winter and uses certain specific burrows to bear and rear the young.
- Wolverine (*Gulo gulo*)—A low density species which occurs primarily in the coniferous forest. The wolverine is related to such animals as the weasel, badger and skunk. It feeds primarily on carrion and is known for its aggressive habits. This species has been the subject of a nongame management regulation and may be reclassified as a furbearer.
- Swift fox (*Vulpes velox*)—Formerly a resident of prairie grass lands and sagebrush grass lands, the swift fox was eliminated from Montana many years ago. Recent increases in Nebraska and South Dakota suggest the swift fox may be on its way back.
- Ferruginous hawk (*Buteo regalis*)—Like the swift fox, this species was formerly abundant in prairie grass land and sagebrush-grass land habitats. The ferruginous hawk declined severely between 1890 and 1915. Incubating birds are extremely sensitive to human disturbance and will readily abandon their nests. Nesting ferruginous hawks are currently maintained on department-owned land.
- Mountain plover (*Eupoda montana*)—A species of the short-grass prairie which nests only in heavily grazed areas or on prairie dog towns, this species is very rare and may be declining.
- Burrowing owl (*Speotyto cunicularia*)—Formerly a common resident of prairie dog towns, the burrowing owl has declined dramatically throughout the northern



half of its range, from central Colorado to Canada. Studies of burrowing owls are currently under way in Montana.

- Western bluebird (*Sialia mexicana*)—The western bluebird has declined due to lack of suitable nesting sites and competition from starlings. It may be readily observed along the Clark Fork River near Plains where a small breeding population exists.
- Milk snake (*Lampropeltis triangulum*)—This rare and secretive species is poorly understood and its range and habitat in Montana are unknown.
- Wood frog (*Rana sylvatica*)—An extremely rare species in Montana, the wood frog occurs primarily in the boreal forests of Canada, but specimens have been collected in Beaverhead County of Montana and the Bighorn Mountains of Wyoming. Status and distribution in Montana are unknown.

ENDANGERED SPECIES

An endangered species is defined as “any species or subspecies of wildlife actively threatened with extinction due to any of the following factors:

- (a) the destruction, drastic modification or severe curtailment of its habitat, or
- (b) its overutilization for scientific, commercial or sporting purposes, or
- (c) the effect on it of disease, pollution or predation, or
- (d) other natural or man-made factors affecting its prospects of survival or recruitment within the state, or

(d) any combination of the foregoing factors.” (Sec. 26-1804 [4], R.C.M. 1947)

Endangered species currently include the northern Rocky Mountain wolf, black-footed ferret, peregrine falcon and whooping crane. Studies of these species focus on follow-up field investigations of reported sightings or sign, inspection of historical or potential occurrence sites and education of the public. Leadership of the nation’s Northern Rocky Mountain Wolf Recovery Team is within our department.

STATEWIDE GOAL:

To manage nongame wildlife and its habitat for human enjoyment, for scientific purposes and to ensure its perpetuation within ecosystems, consistent with other land uses.

THE FUTURE

As additional pressures are brought on all of our wildlife resources, guidance for proper habitat protection can only come from adequate knowledge. In view of the department’s responsibility to manage nongame wildlife, it is imperative that basic biological data be gathered on its ecology and behavior. Without this information, it will be difficult, if not impossible, to properly manage this “silent majority” of the wildlife world.

Major problems confronting nongame wildlife management include: (1) lack of knowledge about the distribution, status, ecological roles and habitats required by different kinds of nongame wildlife, (2) effects of land uses and management practices on individual nongame species, (3) lack of factual information on the popularity and current and potential uses of nongame wildlife and (4) lack of an adequate and representative funding base.

As a first step in addressing these problems, a Citizens Nongame Advisory Council was formed during spring 1978. In addition to providing additional expertise,

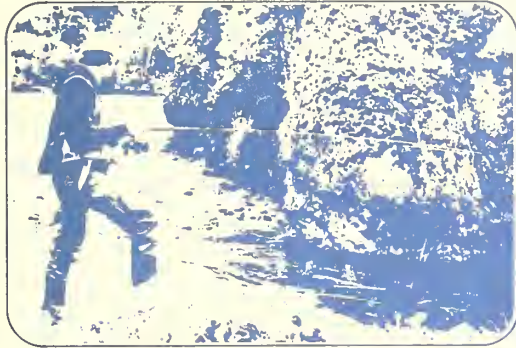
reviewing current nongame activities and recommending necessary changes, the council is also charged with recommending sources for a financial base for implementing future nongame efforts. Efforts of this citizen council should yield alternative funding proposals, most of which should provide a barometer of citizen support for nongame management.

Possibilities for funding the nongame program include: (1) expanding nongame stamp sales, (2) state income tax check-off contribution, (3) increased fees on personalized license plates or (4) increased conservation license fee earmarked for nongame.

Legislation currently pending in Congress would authorize federal funds for state nongame programs. These funds may be derived as an appropriation, or may result from an excise tax on certain items of outdoor recreational equipment. In either case, federal funds would be administered on a matching basis. A state source of matching funds would be necessary to take advantage of the proposed federal program. The key to the future of nongame wildlife in Montana will depend largely on the degree of public interest, involvement and support.



FISH PROGRAM



Water resources in Montana are diversified and widely distributed. Surveys and other field activities have identified over 9,000 individual waters, supporting 80 species of fish, 16 species of amphibians and an undetermined number of aquatic invertebrates. Fifty-two species of fish are native and the other 28 were introduced. The exotics (not native to Montana) include some of the more popular game fish such as rainbow trout, brown trout, brook trout, kokanee salmon and walleye.

The Montana Department of Fish and Game is charged by Montana statutes with managing, protecting and propagating fish and other aquatic organisms. Early laws dealt mostly with the animals of interest to recreational fishermen, but more recent legislation has been oriented toward the environmental condition of aquatic habitat. The department's current responsibilities include protection of all aquatic habitats as well as meeting the needs of recreationists.

MANAGEMENT

Fishery management has emphasized wild fish populations and the habitat necessary to maintain those fish. The management program will continue to emphasize activities and projects related to habitat preservation. This program includes cooperation with

other land and water users under provisions of the Stream Preservation Act and the Natural Streambed and Land Preservation Act and also basic resource inventories or special studies of important species.

Regulations have been liberal to allow the maximum level of use without damaging the resource. We have recently implemented some restrictions on selected waters where fishing quality has declined. Increased effort on evaluation of the regulations is necessary to determine if they are producing the desired results.

The department operates seven hatcheries to provide trout and salmon for planting in Montana waters. Currently, 98% of the fish produced at these stations are planted in lakes where natural reproduction of trout and salmon is lacking or limited. Most streams have adequate reproduction and are not planted because planting can harm wild trout populations. Repair and maintenance on some of the hatchery's physical plants have been delayed because of budgetary limitations caused by inflation and lack of a license fee increase available for this purpose since 1967. These repairs can't be delayed indefinitely, so if license fees are not substantially increased, other parts of the program will have to be curtailed to provide funds for major hatchery repairs.

UTILIZATION

Annual license sale data and creel studies indicate that more than 200,000 residents (35% of those over 9 years of age) participate in recreational fishing. In addition, approximately 85,000-110,000 nonresidents purchased licenses each year from 1971-76. License sales declined slightly in 1974 and 1975, but increased again in 1976.

Total angling pressure during the 1975-76 season was 3,100,000 days. The use is about evenly distributed between streams and lakes statewide, with variations among the seven departmental regions. Residents accounted for 82% of the total fishing pressure and trout waters received a major portion of the use by both residents and nonresidents. Nonresidents showed a higher preference for trout waters, especially for trout stream fishing.

Limited commercial fishing for certain species (such as carp, buffalo and goldeye) has been permitted for many years. This fishery is limited to a few waters and is closely monitored to avoid damage to the recreational fishery or other aquatic resources. The average annual harvest in recent years has been about 500,000 pounds. A commercial harvest of bait fish (such as minnows and suckers) is also permitted on some waters in the eastern part of the state.

FISH PROGRAM OBJECTIVE:

To ensure the perpetuation of all aquatic species and their ecosystems and to meet the public demand for fish in state waters.

THE FUTURE

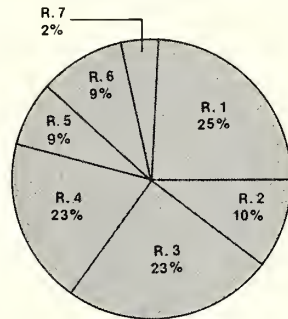
Competition for land and water will intensify as human populations and demands for consumer goods increase. This will place additional pressure on the habitat that supports aquatic animals. Several environmental laws provide a means of protecting habitat, but an increasing effort will be required to accomplish the intent of these laws and to adequately protect aquatic resources.

Many prime fishing waters, especially streams, are bordered by private land. Public use is currently permitted on a large portion of this land but future access is not insured. Changes in policy and/or ownership frequently result in more restrictions, so the trend is toward less recreational use on these waters.

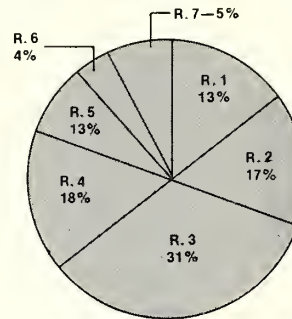
To insure future availability, the department has purchased fishing access sites on important waters since 1954. This program will continue, but its effectiveness will decrease because of inflation. Land values are increasing rapidly and the asking price often exceeds the appraised value. The competition for riparian lands (those bordering water) is also increasing and many desirable sites simply are not available to the department.

continued

REGIONAL DISTRIBUTION OF FISHING PRESSURE BY WATER TYPE

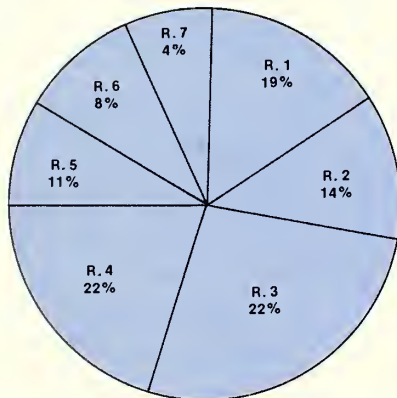


LAKES—49%

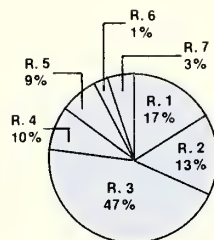


STREAMS—51%

REGIONAL DISTRIBUTION OF FISHING PRESSURE BY LICENSE TYPE

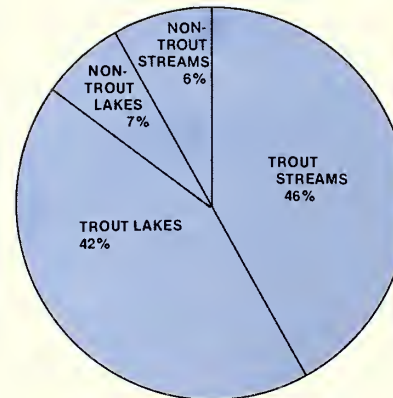


RESIDENTS—2,550,000 DAYS

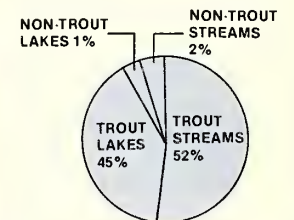


NONRESIDENTS—550,000 DAYS

FISHING PRESSURE BY LICENSE GROUP AND WATER TYPE (1975-1976)



RESIDENTS—2,550,000 DAYS



NONRESIDENTS—550,000 DAYS

Montana statutes provide rights for anglers on navigable streams and those that are navigable in fact (legal determination based on prior use). However, navigability is legally determined stream by stream and only a few waters are navigable in fact. The legal status of public use on most streams is undetermined.

The protection and management of the fishery resource has traditionally been funded by license money or other user fees and by an excise tax on fishing tackle. Some contract money has also been available for special projects where proposed development would affect a fishery. Although license sales have expanded, basic fees have not been increased since 1967 and total funding has not kept pace with inflation. Without substantial increases, funding will become more critical as inflation continues.

Proposed changes at the federal level in allocation of excise tax funds and in license structures could reduce available funds for the program. These proposals

include free licenses for some nonresident anglers and national or interstate licenses. If adopted, these changes could significantly reduce funding at a time when additional demands are exerted on the resource.

Montana's increasing population and the high level of national interest in the state's fishing opportunities indicate that angling pressure will continue to increase. The more popular waters are receiving a disproportionately larger increase in use, so we will need to implement special regulations to protect the resource and to provide equitable distribution of fishing opportunities.

The status and habitat requirements of many nongame species are not known so the effect of habitat degradations cannot be adequately assessed. Although public interest in nongame animals is increasing, funding for projects to assess and protect these species has been limited.



Trout in Streams



Montana streams support five species of trout in varying abundance. Some 12,000 miles of stream support populations that provide *most* of the trout fishery. Many additional smaller tributaries support the productivity of these 12,000 miles by maintaining flows and water quality and by providing spawning and nursery areas. Trout streams occur mostly in the western and central portions of the state but each fish and game region offers some stream fishing for trout.

Intensive land and water use and an increasing human population have taken a toll on these trout streams through pollution, channel alteration and dewatering. This trend will continue or intensify as the state's population and competition for land and water increase. Several environmental laws enacted by Congress and the Montana Legislature afford some protection to fishery resources through improved pollution control, constraints on the physical alteration of channels and greater consideration of wildlife values in water allocations. Fishery managers must continue to apply these laws to protect and maintain our stream trout fisheries in an era of increasing competition for land and water resources.

MANAGEMENT

The management of trout populations in these streams is based on wild trout produced naturally in the streams. Very little can be done to *increase* production in these streams, but a major effort will be required to

maintain present production through habitat preservation.

Rainbow trout are native in a few streams in the Kootenai drainage. That subspecies and two subspecies of cutthroat trout have been designated "species of special concern" in Montana. That classification indicates native species of limited abundance and/or limited habitat in Montana waters.

Existing trout populations can support a temporary increase in days of recreational fishing through 1985 if the department implements more restrictive regulations on selected waters. This increase in days will be offset in subsequent years by expected losses of trout production due to habitat deterioration.

Fishing regulations have been quite liberal in the past but will become more restrictive on some waters as use or harvest approaches the supply.

UTILIZATION

Stream fishing for trout is a highly desired element of the state's fishery and is heavily used by both residents and nonresidents. Nonresidents show the highest preference for stream trout fishing attesting to the national importance of Montana's trout stream fishery. Over half of the nonresident angling effort was directed to trout in streams in 1975-76. Angling pressure is not distributed proportionately among Montana trout streams. The more productive streams are well known and receive a large share of the angling pressure, while some other streams are lightly fished.

Current use on trout in streams is 1,280,000 days; this is expected to reach 1,650,000 days by 1985. By 1985, anticipated use will approach the supply in some department regions.

Many trout streams, especially the larger and more productive waters, flow through private land where public ingress is not insured. Approximately 70% of the trout stream fishery is bordered by private land. Some ingress for fishing is permitted on much of this land, but the trend is toward more restricted access. Public use is restricted to some degree on about 18% of the fishery. Public fishing on waters that cross Indian tribal land has been subjected to increasing restriction in recent years; it appears that this trend will continue.

Public fishing areas have been purchased on many

trout streams with license fee and other recreational funds. This program will continue—contingent on available funds and the availability of desirable sites on important waters. Legal decisions regarding navigability have also enhanced public fishing on some streams.

OBJECTIVE (1985):

To preserve or enhance the 12,000 miles of streams that support wild trout. To manage wild trout populations in streams to support an annual use of approximately 1,650,000 days of recreational fishing within resource limitations and acceptable quality standards. To manage wild trout populations for scientific, aesthetic and other nonconsumptive uses.

THE FUTURE

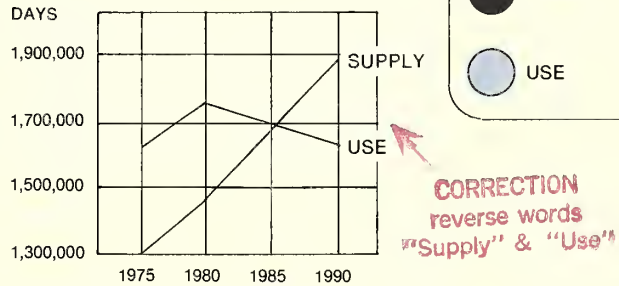
Stream fishing for trout will continue to be an important part of Montana's fishery resource. The habitat base that supports this fishery cannot be increased, so the future recreational opportunities depend on how well that habitat base can be maintained. Several federal and state laws provide a way to protect these streams, but a continuing effort to preserve habitat will be necessary to accomplish the intent of those laws.

As angling pressure increases, regulations will become more restrictive on some waters in order to maintain fishing quality and provide for an equitable distribution of the resource. Based on current fishing standards, the anticipated use on trout streams will approach the total supply in most regions by the late 1980s.

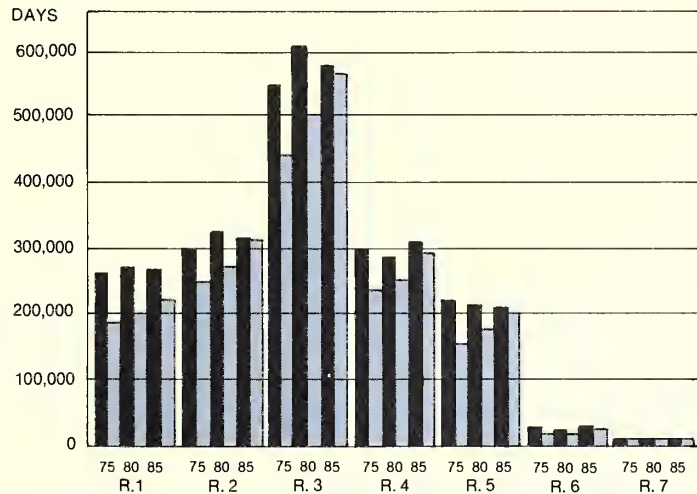
Increasing human populations and the resulting competition for land and water will influence the extent to which public use will be allowed on streams bordered by private land. Availability of these waters for recreational fishing will depend on a continuation of the acquisition program and on a favorable relationship between recreationists and landowners. Legal decisions regarding navigability determinations will also influence the availability of these trout streams.

SUPPLY AND USE PROJECTIONS

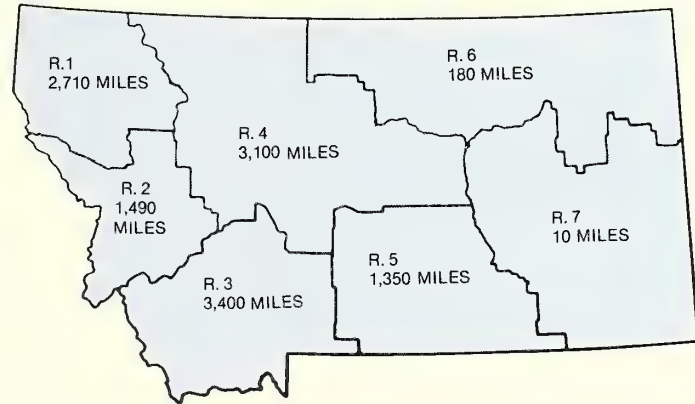
STATEWIDE



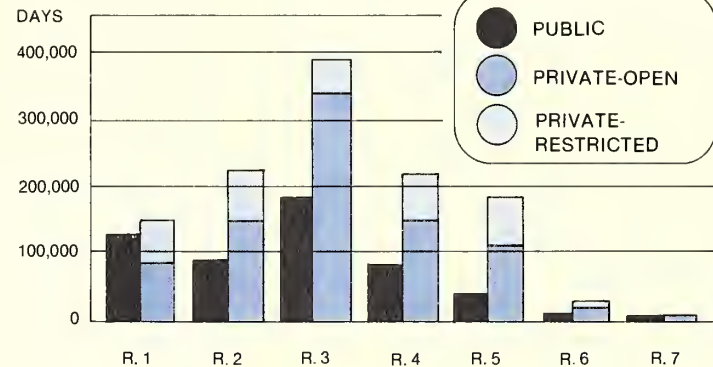
REGIONAL



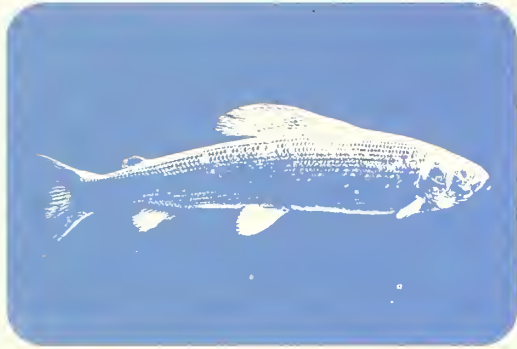
REGIONAL DISTRIBUTION OF TROUT STREAMS



REGIONAL SUPPLY IN RELATION TO LAND OWNERSHIP (1975)



Whitefish, Kokanee and Grayling in Streams



The mountain whitefish is native to Montana and is widely distributed in the large rivers and major tributaries in the western half of the state. Kokanee inhabit cold water lakes during most of their life cycle, but they enter streams during their fall spawning season. The stream fishery on kokanee is a snag fishery on these adult spawners, with major fishing on the Flathead and Whitefish rivers when spawners migrate from Flathead Lake. Runs also occur in a few streams in the Clearwater drainage and in tributaries of Georgetown Lake. Salmon also run in ditches from the Helena Valley Regulating Reservoir, Bynam Reservoir and Pishkin Reservoir when flows permit movement. The grayling was originally abundant in the Missouri River drainage above Great Falls, but its range has been greatly reduced. Remnant populations still occur in 20-25 streams.

MANAGEMENT

The three species in this group have habitat needs similar to those of the various trout species. Therefore, both groups have benefited from laws and regulations dealing with pollution control, restrictions on channel alteration and water allocations. Year-round angling seasons and liberal limits have been in effect on mountain whitefish for several years to encourage use of this abundant but lightly used game fish.

The kokanee is a landlocked variety of the seagoing sockeye salmon. Like the sockeye, the adult kokanee die

soon after spawning. Therefore, liberal fishing regulations allow maximum use of these spawners.

The primary objective of grayling management has been to maintain suitable stream habitat conditions for the remaining populations. Regulations on grayling have generally been the same as those on trout. On a few waters, rules have been more restrictive to protect limited spawning populations. The grayling has been designated a "species of special concern" in Montana streams.

UTILIZATION

Although mountain whitefish are abundant and widely distributed in Montana streams, angling pressure is low. They can be taken readily throughout the year, but anglers show the greatest interest in this species during the winter.

The kokanee fishery in the Flathead drainage has become increasingly more popular in recent years. Current annual use is 20,000 days and this is expected to increase at a rate similar to other types of recreational fishing. If the spawning runs in the Flathead River system can be maintained at their present level, the anticipated angler use can be met through 1985. The salmon snagging opportunities at the other five sites are limited and variable from year to year. Anglers use these fisheries when they are available.

The grayling is of special interest because of its unique appearance and limited abundance. Most of the angler use on this species is incidental to trout fishing, but some anglers seek out grayling waters for the opportunity to observe or catch this unique native fish.

OBJECTIVE (1985):

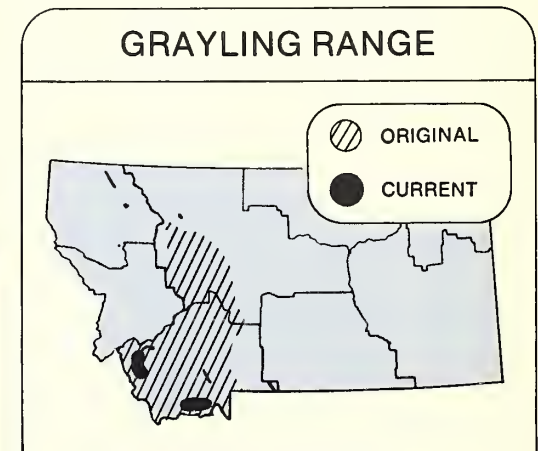
To preserve or enhance the habitat in 3,600 miles of streams that support whitefish, kokanee or grayling fisheries. To manage these species to support an annual use of 183,000 days of recreational fishing within resource limitations and acceptable quality standards. To manage these species for scientific, aesthetic and other nonconsumptive uses.

THE FUTURE

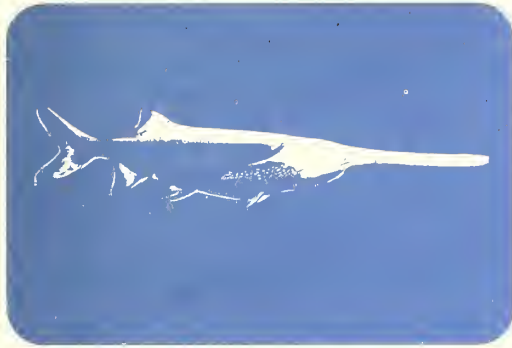
The mountain whitefish has been affected to some extent by habitat degradations but it will continue to be one of the most abundant stream species. Angling pressure will increase, but it will be relatively low in relation to the total supply. The department is considering a limited commercial fishery for whitefish.

The Flathead River system will continue to be the main stream fishery for kokanee. The spawning run from Flathead Lake is stable at this time but it could be jeopardized by extensive developments in the drainage or by major changes in stream flow. Other areas will continue to provide limited salmon fishing in some years. Statewide, the kokanee populations and stream fishing opportunities are expected to remain near current levels.

Although the grayling is an important species in Montana's native fauna, it is unlikely that its current range in streams will be expanded. Management efforts will be directed toward maintaining the remnant populations through habitat protection. Limited fishing opportunity for this native fish will be available.



Paddlefish in Streams



The ancient and unique paddlefish inhabits the Yellowstone and Missouri drainages of eastern Montana. Fish from Garrison Reservoir in North Dakota make spawning runs into these river systems. The Yellowstone River at Intake Dam near Glendive has a major fishery. Paddlefish are also taken at the mouth of the Tongue River near Miles City and at Cartersville Dam near Forsyth. Fish from Garrison also move into the dredge cuts below Fort Peck Dam and into the Milk River.

Paddlefish from Fort Peck Reservoir run into the Missouri River above the reservoir. A major fishery occurs near the Fred Robinson Bridge, as the fish begin to move upstream. A few fish are also taken by anglers in upstream areas of the Missouri River.

MANAGEMENT

Although the paddlefish is native to Montana waters, it did not receive much attention until recently. Its presence was known and a few were taken by anglers in earlier years, but interest was low until the early 1960s. After anglers began to snag paddlefish at Intake Dam near Glendive, interest increased rapidly. The species was not a game fish, so the harvest was unregulated. Concern for its welfare prompted legislation that classified the paddlefish as a game species. This provided a way of regulating the fishery and eliminated the commercial harvest of paddlefish. Initially, the daily limit was two fish per day; this has recently been reduced

to one per day to protect the species and to provide a more equitable distribution of fishing opportunity among interested anglers. The department is considering an annual limit and a tagging system to reduce the harvest and to allow more recreationists to participate. Life history data is incomplete, so management of this slow-growing and long-lived species will continue to be conservative. Because of its limited distribution and abundance, the paddlefish has been designated a "species of special concern" in Montana.

Studies show that the magnitude and duration of spring high flows influence paddlefish spawning movements. Any water developments that alter flows could adversely affect the status of this species. Very little is known about the spawning and rearing requirements of the paddlefish, so department fisheries biologists are investigating these life history stages. Paddlefish are long-lived and the females don't mature until they are 12 years or older. Therefore, information regarding natural reproduction and the impact of flows is essential to preservation of this native species.

UTILIZATION

Fishing pressure has varied from year to year, with a trend toward increasing use on the major areas. In the mid-1960s, use was mostly by local residents. Recently the fishery has attracted more out-of-area residents and nonresidents.

Many of the fish taken are released. The tendency to release fish is related to average catch rates. The recent average catch rate at Intake was 1.5 fish per day and 45% were released; the Missouri River fishery averaged .3 fish per day and only 10% were released.

The fishery occurs in limited areas where fish concentrate in large numbers during the run. Most of these areas are on public land, so ingress is not a major problem; however, at times, crowding and competition do occur among the fishermen.

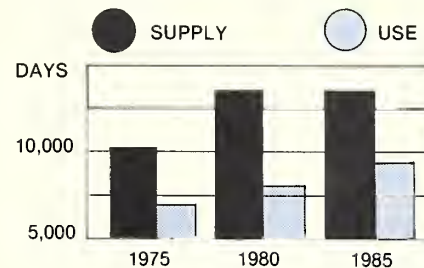
OBJECTIVE (1985):

To preserve or enhance the habitat in those streams that support paddlefish. To manage paddlefish populations to provide an annual use of 9,200 days of recreational fishing within resource limitations and acceptable quality standards. To manage paddlefish populations for scientific, aesthetic and other nonconsumptive uses.

THE FUTURE

The greatest threat to paddlefish populations is potential water developments that would alter flows during spawning. If needs of this species are adequately considered in development plans, paddlefish populations can be maintained at current levels.

PADDFISH STATEWIDE



Other Game and Sport Fish in Streams



This group includes sauger, walleye, northern pike, smallmouth bass, burbot (ling), channel catfish, sturgeon and several species not legally classified as game fish. These fish are found mostly in streams of central and eastern Montana, except for some introduced populations of pike and bass in the Flathead River drainage and the ling which is native in all drainages except the Clark Fork of the Columbia. This fishery occurs in approximately 2,500 stream miles. Additional tributary streams, some of which are intermittent, support these main streams and may support fish for short periods of time.

MANAGEMENT

Sauger, burbot (ling), channel catfish and sturgeon are native species and the others were introduced into streams or have spread to streams from earlier plants in lakes or reservoirs. Hatchery plants are intended to establish a species; no maintenance plants are made to provide recreational fishing. The white sturgeon and the pallid sturgeon have been designated "species of special concern" in Montana waters.

Habitat deterioration has influenced these species throughout their range. Several environmental laws enacted by Congress and by the state legislature provide a way to protect these species through improved pollution control, constraints on channel alteration and greater consideration of fishery values in water allocations. Investigations of life history stages and

habitat requirements have been conducted to obtain the information needed to adequately protect these species.

Angling pressure has been relatively low on these species in streams so regulations on all species except white sturgeon have been quite liberal. It is unlikely that additional restrictions will be needed in the immediate future, except for certain species such as the white sturgeon. An annual limit is in effect and a tagging system is proposed for this species.

UTILIZATION

The stream fishery for these species was used largely by resident anglers during the 1975-76 season. Total use was 160,000 days, with nearly 95% by Montana residents. Most nonresidents prefer the trout waters in central and western Montana so resident anglers will account for most of the future use on these species.

Angler use is expected to reach 205,000-210,000 days by 1985, based on license sale and projected human population figures. Fishing opportunity will more than meet recreational fishing demands for these species.

Although the supply of recreational fishing is high compared to anticipated use, it is not evenly distributed nor equally available to all potential users. In some communities, the opportunity for recreational fishing or other water-based recreation is limited and a single body of water takes on special significance.

Most of these streams are bordered by private land where fishing is permitted with minimal restrictions. Although ingress is now favorable for anglers, restrictions will become more common as recreational use increases and changes occur in land ownership or uses. Waters on Indian tribal lands have been subjected

to increasing restrictions in recent years. Some stream reaches are also unavailable because of a lack of access roads.

THE FUTURE

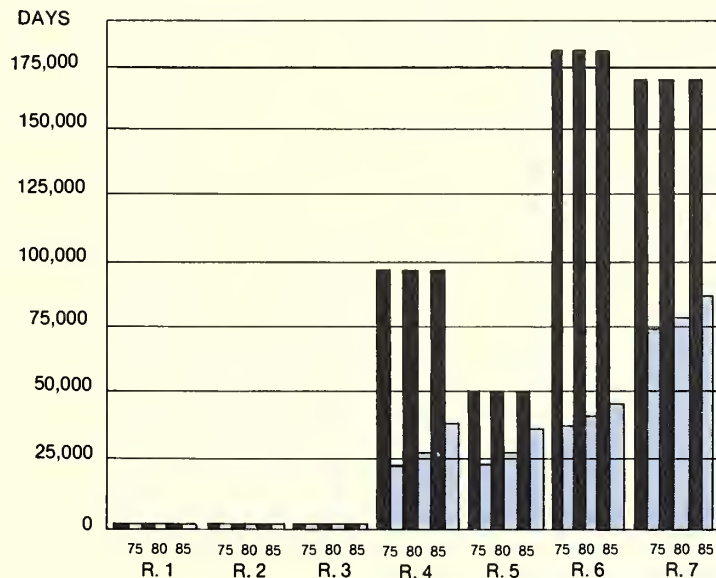
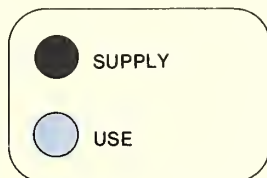
Recreational fishing for these species in streams will continue to be an important part of the state's aquatic resource, especially for residents of eastern Montana. Anticipated demand for recreational fishing can be met through 1985, but continuing efforts will be required to prevent habitat deterioration.

Public use will be influenced by a variety of factors, but it appears unlikely that posting will be a major or widespread problem in the foreseeable future. The future relationship between recreationists and landowners will greatly influence the availability of these waters for public fishing as well as other types of recreation.

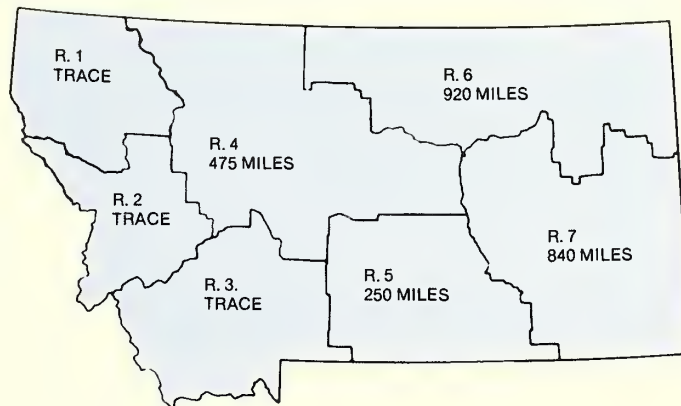
OBJECTIVE (1985):

To preserve or enhance the habitat in 2,500 miles of streams that support other game and sport fish. To manage these populations in streams to provide approximately 210,000 days of recreational fishing within resource limitations and acceptable quality standards. To manage these species for scientific, aesthetic or other nonconsumptive uses.

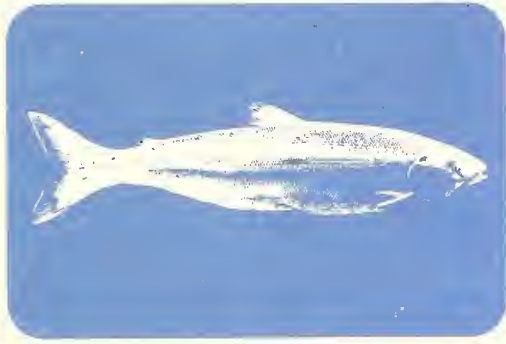
REGIONAL SUPPLY AND USE PROJECTIONS



REGIONAL DISTRIBUTION OF STREAMS



Trout and Kokanee in Lakes



The waters in this group range from small mountain lakes and farm ponds of a few acres to large reservoirs and natural lakes that exceed 100,000 surface acres. This recreational fishery is supported mostly by 1,900 individual waters. Each department region has some trout lakes, but a large portion of the waters and the total acreage lie in the central and western portions of the state. Trout ponds in eastern Montana add to the diversity of the fishery in areas that support primarily other species of game and sport fish. Seven species of trout are present in these waters in varying abundance. Kokanee are planted in several lakes in central and western Montana for recreational fishing. Coho salmon have been introduced in a few lakes in past years but they have not reproduced well naturally and the species is rarely taken by anglers. The major environmental problems in these waters are pollution, eutrophication, accelerated siltation and fluctuations in reservoir storage levels.

MANAGEMENT

Management of these waters is based on wild fish populations where spawning facilities are adequate to maintain self-sustaining populations. Spawning tributaries are lacking or limited in many of the lakes, so these recreational fisheries depend partially or completely on hatchery-reared fish.

Fishing regulations have been quite liberal in the past and will continue to be liberal on most waters. Year-

round fishing is permitted on most lakes, except for a few where temporary closures protect spawning fish, conserve fish stocks or ensure public safety.

The migratory strains of the westslope and Yellowstone cutthroat trout are classified as "species of special concern."

UTILIZATION

Trout fishing in lakes is popular with both resident and nonresident anglers, with over 40% of the total statewide pressure directed to these waters. Most lakes are lightly fished, but each department region has some lakes that currently receive the maximum use that can be sustained without degrading the quality of the fishery.

The 1975-76 pressure survey indicated 1,307,000 days on these trout and kokanee lakes, and use is expected to reach 1,681,000 days by 1985. Residents accounted for over 80% of the statewide pressure on trout lakes in 1975-76. Nonresidents use these lakes in all regions, but Regions 1 and 3 (Kalispell and Bozeman) receive nearly three-fourths of the use by this group of anglers.

Approximately 55% of this fishery is on public land where public use is insured; 30% is bordered by combinations of public and private ownership where access is incomplete. The remaining 15% occurs on private land where ingress varies from uncontrolled to prohibited. Very few trout lakes are completely unavailable because of posting, but several large lakes have shorelines only partially available to recreationists because of interspersed public and private land. The extent of use on these waters is affected by distance, weather and boat use.

OBJECTIVE (1985):

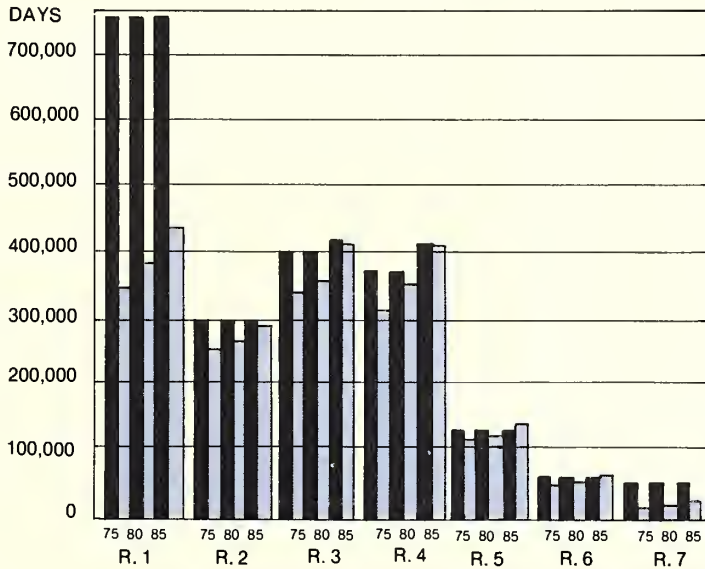
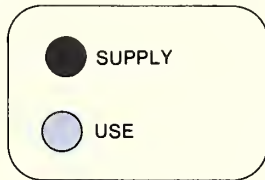
To preserve or enhance the habitat in 1,900 lakes, reservoirs and ponds that support trout or kokanee. To manage trout and kokanee populations in lakes to support an annual use of 1,681,000 days of recreational fishing within resource limitations and acceptable quality standards. To manage these species for scientific, aesthetic or other nonconsumptive uses.

THE FUTURE

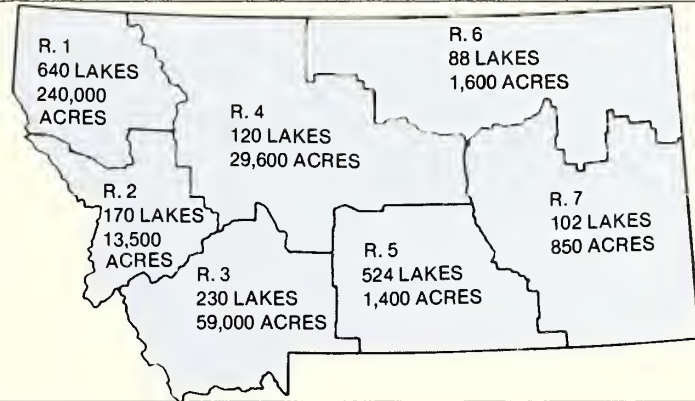
Lake fishing for trout and kokanee will continue as a major sport for recreational fishermen. Current management of most trout lakes is based on present fishing pressure rather than on the water's productive potential. As need arises, management procedures can be adjusted on these lakes to provide additional fishing opportunity if adequate funding is available. These adjustments can meet the anticipated increases in use through 1985 in all regions except Region 5 (Billings). This region has many mountain lakes, but relatively few lowland lakes or reservoirs that can be managed to support increasing amounts of recreational fishing. These lowland waters are currently managed and utilized near their maximum potential, so the additional fishing opportunities needed to meet anticipated demand cannot be provided in these waters.

An increasing human population and the resulting competition for space and water will increase the threat of habitat degradation. Continuing efforts to preserve habitat will be necessary to maintain these aquatic ecosystems.

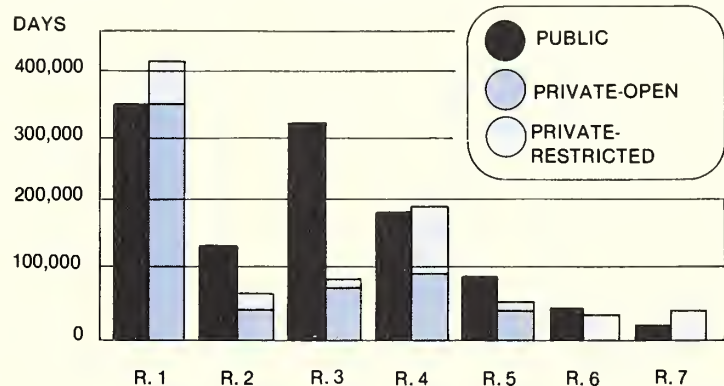
REGIONAL SUPPLY AND USE PROJECTIONS



REGIONAL DISTRIBUTION OF TROUT-KOKANEE LAKES



REGIONAL SUPPLY IN RELATION TO LAND OWNERSHIP



Other Game and Sport Fish in Lakes



This group includes sauger, walleye, northern pike, largemouth bass, smallmouth bass, sturgeon, burbot (ling), channel catfish and several other species utilized by recreational fishermen, but not legally classified as game fish. About 250 individual waters—ranging from small farm ponds to large reservoirs—support these species. Most of these waters are in central and eastern Montana but each department region contains a few lakes that support one or more of these species.

Regions 1, 2 and 3 (Kalispell, Missoula and Bozeman) have limited populations of these species that provide diverse fishing opportunity in areas where trout predominate. Northern pike have been established in some lakes in the Columbia River drainage and could adversely affect other game species. Burbot are native in the Missouri and Kootenai drainages and provide fishing in several large lakes and reservoirs. The yellow perch is not legally classified as a game fish, but it is a popular species throughout the state.

A large part of Fort Peck Reservoir is unavailable because of a lack of roads or long distances required for boat travel. Those areas were not included in the total supply of recreational fishing. Region 7 (Miles City) has a large number of waters that support these species but they are mostly small ranch ponds distributed throughout the region. Many of these ponds are remote and offer limited fishery potential, but they have special importance since they provide the only water-based recreation for local residents.

MANAGEMENT

All species in this group can reproduce in lakes, so management is based mostly on self-sustaining wild fish populations. Introductory plants establish selected species in suitable waters or re-establish populations that have been eliminated. Maintenance plants of the more popular game species have been made in a few waters where spawning facilities are lacking.

Regulations have been liberal, with year-round fishing and minimal gear restrictions on most of these waters. Daily limits have generally been large for all species except northern pike.

Most waters in this group are reservoirs built for purposes other than fish production. In most cases, the design and/or operation of the reservoir adversely affects the fishery potential and may preclude certain species. Very few reservoirs are operated to provide maximum fish production. The northern pike is especially affected by reservoir operation. The fish spawns in early spring in shallow marshy areas or backwaters. Reservoirs are normally low at that time of year to catch spring and summer run-off, thus limiting the northern pike's spawning opportunities.

Farm ponds are typically short-lived and often provide fishing for only a few years. Siltation rates, water quality, temperature and other environmental factors limit the productive period. When a pond loses its capacity to support fish, it can usually be replaced by another pond in the same general area. Cooperative agreements with individual landowners or land management agencies provide public access.

UTILIZATION

These waters provided 200,000 days of recreational fishing in 1975-76; use is expected to reach 256,000 days by 1985. Montana residents account for more than 90% of the angler use. About 40% of nonresident use occurs in Region 7 (Miles City). This is largely due to Wyoming residents who fish the Tongue River Reservoir and nearby ponds.

Nearly 80% of this fishery is bordered by public land where ingress is ensured; most of the remainder is bordered by private land where public use is allowed with minimal restrictions. A small part of this fishery is on Indian tribal lands where special fees are assessed for public recreation.

OBJECTIVE (1985):

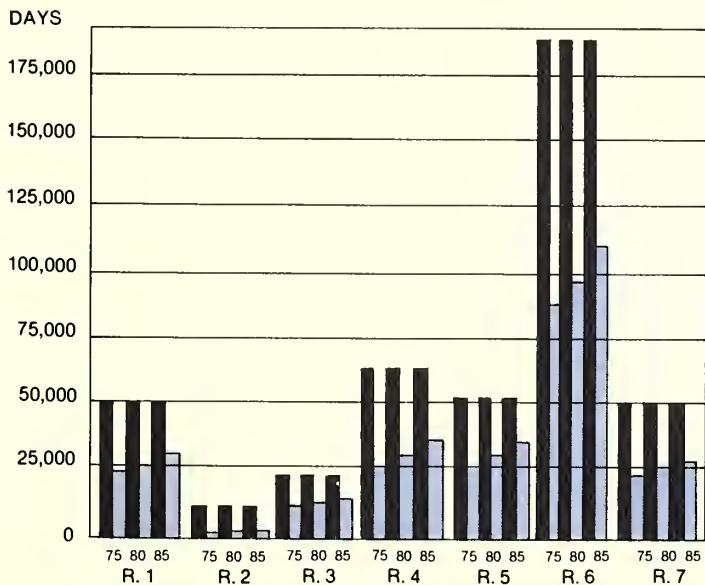
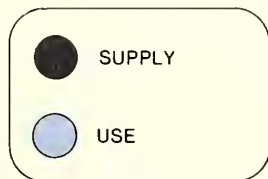
To preserve or enhance the habitat in 240 waters that support other game and sport fish. To manage these populations in lakes to support an annual use of 257,000 days of recreational fishing within resource limitations and acceptable quality standards. To manage these species for scientific, aesthetic or other nonconsumptive uses.

THE FUTURE

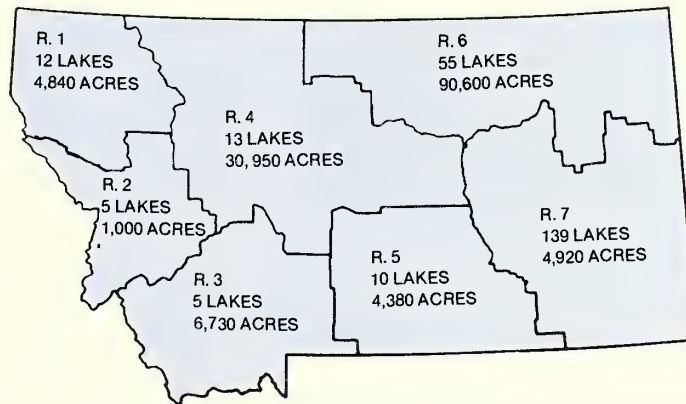
Lake fishing opportunities for this group of fish will continue to be an important component of the state's recreational fishery, especially for residents of the eastern part of the state. Based on current participation rates and projected population levels, anticipated use by recreational anglers can be met in all department regions through 1985.

The water base supporting this fishery will remain fairly stable during the planning period. The fishery potential of the larger lakes and reservoirs will not change significantly, unless major developments cause unexpected environmental changes or unless major operational changes are adopted to benefit fish production.

REGIONAL SUPPLY AND USE PROJECTIONS



REGIONAL DISTRIBUTION OF LAKES



Whitefish and Grayling in Lakes



This group includes three species of whitefish and the arctic grayling. The mountain whitefish is common in many lakes in the western half of the state but receives little attention from anglers. The lake whitefish occurs in 10 lakes but is seldom taken on hook and line. The pygmy whitefish inhabits only a few deep cold-water lakes in the northwestern part of the state where it provides important forage for predator species. The grayling was abundant in the Missouri River and its tributaries above Great Falls, but its current range has been reduced to remnant populations in a few streams. It has been introduced into a number of lakes and is currently present in 50 lakes.

The four species in this group have habitat requirements similar to those of trout. Therefore, they are influenced by the same degradations that affect trout populations in lakes and they also benefit from habitat preservation in cold-water lake environments.

MANAGEMENT

Regulations have been liberal on whitefish to encourage utilization of an abundant game species. Angling is primarily for mountain whitefish, but a few lake whitefish are also taken. The pygmy whitefish is

rarely taken by angling because of its remote habitat, so it is not influenced much by sport fishing.

Grayling have been introduced into a number of mountain lakes to increase their range and to make them more available to anglers. The range of grayling in streams probably cannot be significantly expanded, so department fisheries biologists have been using lakes as substitute habitat to maintain this native species. Grayling adapt well to cold-water lakes, except for spawning. Like the trout, they require clean gravel-bottomed streams for spawning, so only lakes with high-quality tributary streams are selected for grayling management.

UTILIZATION

A few anglers fish for mountain and lake whitefish, but most of the harvest of these species is incidental to trout fishing. Total angler use on grayling is also low, but some anglers seek out these waters for the opportunity to catch and observe this unique native species.

OBJECTIVE (1985):

To preserve or enhance the habitat in the lakes that support whitefish or grayling. To manage these species in lakes to provide an annual use of 16,500 days of recreational fishing within resource limitations and acceptable quality standards. To manage these species for scientific, aesthetic or other nonconsumptive uses.

THE FUTURE

The lake-dwelling populations of these four species are expected to remain stable during the planning period. They will continue to support recreational fishing at a relatively low level.

Nongame Fish and Other Aquatic Animals



This group includes all fish not included in game or sport fish classifications, plus amphibians and aquatic invertebrates. Recent legislation concerning nongame animals affects 55 species of fish, 16 species of amphibians and an undetermined number of species of mollusks, crustaceans and other aquatic invertebrates. These animals are important elements in aquatic food chains and many are indicators of water quality. They are also the objects of scientific and educational studies and they are used to a limited extent for human consumption.

Some fish species are harvested commercially for food; a commercial harvest of bait fish is allowed in some areas.

MANAGEMENT

Commercial fishing on selected waters for some nongame species (buffalo, carp, goldeyes and suckers) has been permitted in Montana for many years. The fish are sold for human consumption in out-of-state markets. Gear and fishing sites are carefully regulated to minimize the impact on other resources and on the recreational fishery.

A limited commercial harvest of bait fish is also permitted on selected waters in eastern Montana. The

abundance of most bait species is unknown so regulations have been conservative to avoid overexploitation or a reduction in forage supplies for predator species.

The status of most nongame species and their habitats has not been determined. Funding for studies of these species has been limited and the information available was usually collected in conjunction with studies of game species. Nongame animals have been adversely affected by various land and water uses and they have also benefited from habitat preservation that was directed primarily toward game or sport species. However, specific studies regarding adverse effects or benefits are limited.

Several species of fish have been designated "species of special concern" because of limited abundance and/or limited habitat in Montana waters. Nongame species in this group include the shortnose gar, sturgeon chub, creek chub, blue sucker, trout perch, shorthead sculpin and the spoonhead sculpin.

In some situations, lake populations become dominated by fish of little or no recreational value. These lakes are sometimes treated with chemicals to reduce or eliminate the less desirable species and replace them with a more popular game fish.

UTILIZATION

During recent years, commercial fishermen have harvested an annual average of 500,000 pounds of rough fish. Most come from three reservoirs in central and eastern Montana. The supply of some species taken commercially is larger than the current harvest, but an intensive harvest of goldeyes in portions of Fort Peck Reservoir substantially reduced the number of fish large enough for commercial value. Special regulations were applied on that body of water to maintain a sustained annual harvest of goldeyes.

Several species of nongame fish are used for fish bait by recreational anglers. Sculpins are an effective bait for trout and are used extensively in the western part of the

state. Other species, mostly minnows and suckers, are commonly used in eastern Montana. The harvest and use of these fish are regulated to prevent overharvest of the bait species and adverse effects on other species.

Currently, 36 bait dealers are licensed to seine or trap bait fish in designated waters in the eastern part of the state. Sculpins are also harvested and sold in the western regions, but no license is required.

Nongame species are also utilized for a variety of scientific and educational purposes. Collectors' permits are available if it is necessary to kill protected animals as a result of these activities.

OBJECTIVE (1985):

To preserve or enhance nongame species and their habitats and to provide an opportunity for beneficial uses of these animals. To provide for an annual commercial harvest of 700,000-1,000,000 pounds of designated species where that harvest is compatible with other uses of fish and wildlife.

THE FUTURE

The commercial harvest of food fish is expected to remain near the current level during the planning period. The resource could support a larger harvest of some species, but market conditions will continue to limit participation. Distant markets, low prices and competition from marine sources of fish products will preclude any significant increase in the commercial fishery.

During recent years, increasing interest has surfaced in the commercial harvest of bait fish, especially in eastern Montana. The number of licensed bait dealers is expected to increase as population and fishing pressure increase. Continued regulation will be necessary, but the needs of the bait industry can be met.

PARKS PROGRAM



The first comprehensive state parks legislation in Montana was enacted in 1939. That law empowered conservation of the scenic, historic, archaeological, scientific and recreational resources in Montana for the cultural, recreational and economic benefit of the people.

In the 40 years since 1939, the number of state parks has increased from a single site—the Lewis and Clark Caverns—to a complex system of 238 sites comprising about 147 square miles. This system offers a wide variety of recreational opportunities—boating, camping, picnicking, fishing, nature study, photography, etc. Some of the finest examples of Montana's heritage, both cultural and scientific, are also conserved within this system.

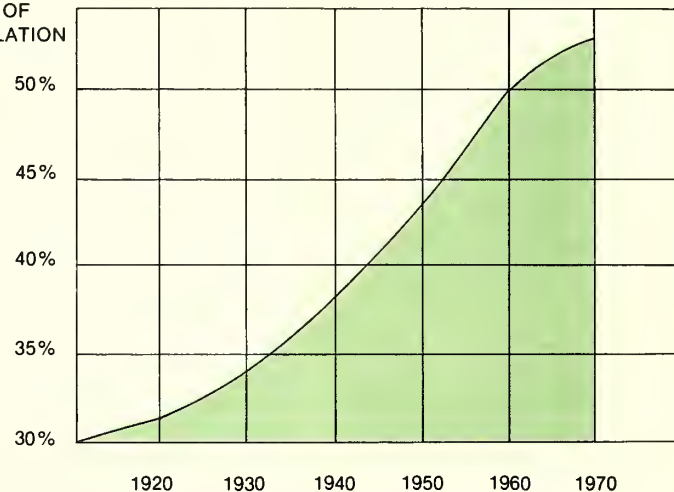
But as Montana's parks have evolved, so has Montana's population. In magnitude, the population has grown by 23% since 1940 and is expected to grow by another 18% by 1990. But growth tells only part of the story. Increasingly, the population has become urban or suburban, more affluent and mobile. It has made pursuit of leisure activity a way of life. The number of

state park and recreation users has grown far in excess of the percentage of population growth and the swelling numbers are seasonally reinforced by an army of nonresidents. Their activities—often dependent upon increasingly sophisticated equipment, such as lightweight backpacking gear—are often in conflict with each other and with environmental factors.

These changes in the social structure are creating problems in managing Montana's outdoor recreation resources. In the next several pages, we will discuss these major problems. The ability to cope with them depends on the ability and foresight of our park managers, political leaders and, most of all, the people of Montana.

GROWTH OF MONTANA'S URBAN POPULATION

PERCENTAGE OF URBAN POPULATION



Urban Recreation and the Land and Water Conservation Fund



Among the duties of the Parks Program is administration of the federal Land and Water Conservation Fund (LWCF). It comes largely from outer continental-shelf mineral lease receipts. Administered nationally by the U.S. Department of the Interior since 1965, this fund has provided Montana with more than \$19 million in matchable money for acquisition and development of state and local recreation facilities. Over the next decade, we recommend the following distribution of LWCF:

Uses	Per cent
(1) Grants to local governments	not less than 50%
(2) Acquisition and development of units of the state park system (includes parks, monuments, fishing access sites and recreation areas)	48%
(3) Planning necessary to remain eligible for LWCF	not more than 2%

Among the uses to which the LWCF will be put, none are more important than grants to Montana communities. While Montana may be a rural state, the fact remains that since 1960 most of us have lived in an "urban" community—sometimes a major city, sometimes a smaller town. If we are to maintain a

quality environment in which to live, we must ensure that our cities and towns remain decent places to live. Few resources do more to ensure a livable urban environment than parks, open spaces and recreational facilities.

Of particular concern is the trend toward greater federal utilization of the LWCF for land acquisition at the expense of state and community projects. In 1978, the department's Parks Division was forced to turn down \$1.5 million in locally sponsored recreation and park projects because matching federal money from the LWCF was lacking. Last year, however, federal use of the fund rose from 40% to 49% which took \$400,000 from Montana and its political subdivisions. This is money denied our state and communities for needed park and recreation facilities.

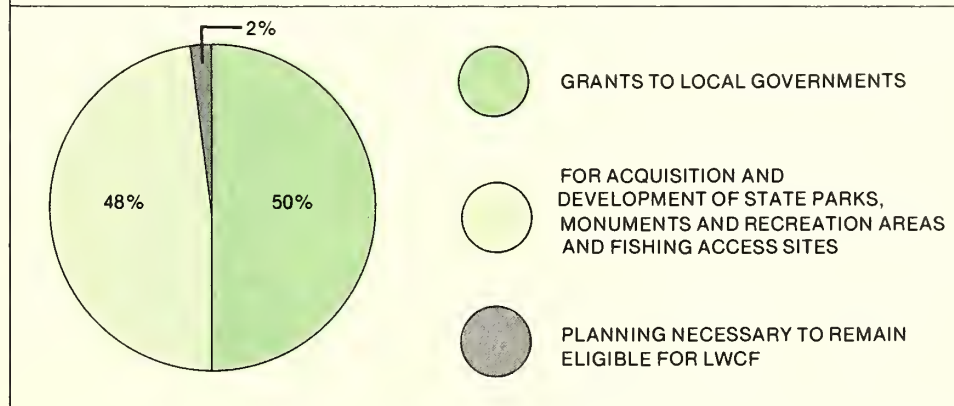
WHAT IS NEEDED:

Every effort must be made to assure full funding of the Land and Water Conservation Fund and availability of the fund sufficient for the needs of our state and local communities.

WHAT IS BEING DONE:

- (1) streamlining grant administration to assure rapid and equitable processing of grants and
- (2) cooperating with other states in influencing the national use of the Land and Water Conservation Fund.

FUTURE ALLOCATION: THE LAND AND WATER CONSERVATION FUND



Rivers and Lakes for Recreation



Montana has no finer resources than its rivers and lakes. They are a prime recreational attraction for residents and nonresidents alike. But they are a resource which can be lost "overnight."

Our rivers and lakes are fragile and subject to damage from improper industrialization, subdivision and agricultural practices. Also, unlike many of our upland resources, our prime streams and lakes are mostly adjacent to private land. The accompanying pie charts clearly illustrate the streams. In addition to an abundant trout and other species sport fishery, our streams support many other types of recreation—canoeing, floating, streamside camping, bird watching, etc. Most trout fishing and the majority of the remaining stream fishery is adjacent to private land. As demand for access to these streams increases, the private landowner will have little choice but to increase restrictions on access to these resources.

The Montana recreationist seems well aware of these facts. In July 1978, about 43% of those surveyed indicated they had difficulty in obtaining access to Montana's streams and 63% expressed support for a

WHAT IS NEEDED:

There is need for a concerted effort assuring continued public recreational access to Montana's rivers and lakes.

program to assure access to the rivers and streams of Montana.

While purchasing access is certainly an important aspect of this program, land acquisition is not the entire answer. Characteristics of the program must include:

- (1) a search for less than fee simple land acquisition techniques,
- (2) cooperation between state, local and federal government agencies and the private landowner and
- (3) assurances that the rights of adjacent private landowners will be guarded.

WHAT IS BEING DONE:

- (1) establishment of an active program of stream and lakeshore acquisition,
- (2) experimentation with cooperative management programs between the state, local governments and the private sector,
- (3) efforts to guard in-stream flows for fish, wildlife and recreation and
- (4) efforts to guard water quality for fish, wildlife and recreation.

WHAT MUST BE DONE:

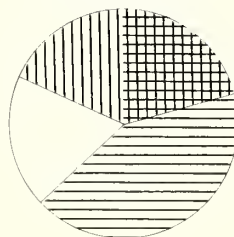
- (1) strengthen the existing program to include more adequate and systematic river basin planning and management and
- (2) improve cooperation and coordination between federal, state and local agencies and the private sector in development and implementation of river basin plans.

AND IF IT ISN'T DONE:

- (1) access will become increasingly difficult to obtain,
- (2) water quality and quantity may deteriorate so our streams and lakes are useless recreational resources and
- (3) conflicts between recreationists and landowners will increase.

SUPPORT FOR RIVER ACCESS

RESIDENT POPULATION

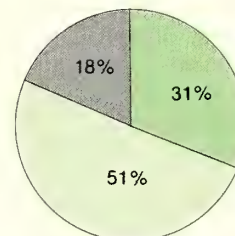
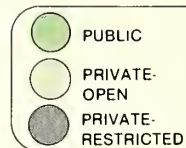


63% SUPPORT PROGRAM TO ASSURE RIVER ACCESS

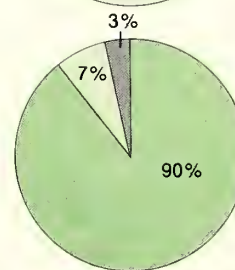


43% HAVE EXPERIENCED DIFFICULTY TO STREAM ACCESS

LAND CONTROL AND ITS EFFECT ON FISHERIES

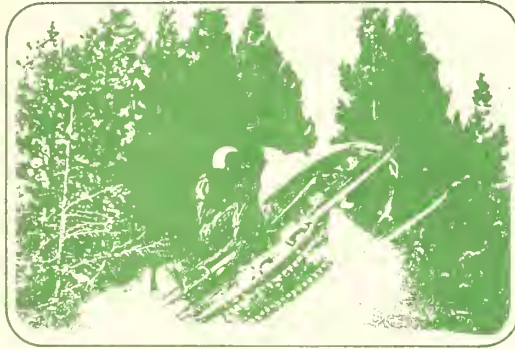


TROUT STREAMS



OTHER GAME FISH RESOURCES

Off-Highway Vehicle Recreation



A large amount of recreation in Montana does not take place at designated recreation areas. Rather, Montanans like to wander about their magnificent countryside enjoying the vistas, observing wildlife, studying the environment and just entertaining themselves. This wandering about is generally called "dispersed use" recreation.

About two-thirds of Montanans' dispersed use recreation involves some form of a recreational vehicle—most commonly a four-wheel drive, motorbike or a snowmobile.

The recreational vehicle has vastly expanded the recreational horizon for Montanans—it provides easy access to new country and, to many recreationists, the vehicle is itself a source of entertainment and excitement.

But use of recreational vehicles is not without adverse impacts. When misused, some recreation vehicles can tear the countryside to pieces or irritate recreationists seeking quiet and solitude.

This latter point is particularly important because, while use of recreational vehicles appears to be leveling off, there has been a vast increase in the number of recreationists—backpackers, cross-country skiers and snowshoers—who place a premium on quiet and solitude.

This conflict between recreationists has imbued the management of vehicle-oriented recreation with an unnecessary aura of suspicion and emotionalism.

This need not be. Recent experiences with

snowmobile management have shown that mutual respect and serious effort on real problems can reduce and, in many cases, eliminate conflicts. The following are necessary:

- (1) training in safety, etiquette and behavior for all Montana recreationists,
- (2) law enforcement and
- (3) provision of minimal support facilities.

We are addressing snowmobilers' needs, but snowmobile use accounts for only about 14% of the recreational dispersed use of motorized vehicles. Fully 85% of the dispersed use of recreational vehicles is subject to no responsible management program.

WHAT IS NEEDED:

Establishment of a sound, reasonable off-highway management program is vitally necessary to the future of quality recreation in Montana.

If this is not done, we can expect increasing conflict, unnecessary damage to our natural resources and the imposition of unnecessary and unrealistic regulations at the federal level.

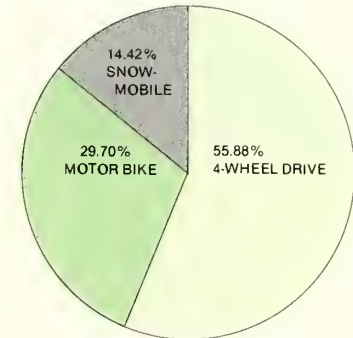
WHAT IS BEING DONE:

Implementation of a state snowmobile management program in cooperation with snowmobile clubs, local governments and federal agencies to provide facilities, law enforcement and training.

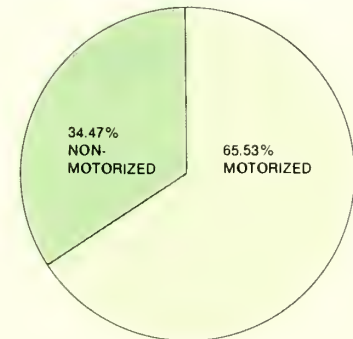
WHAT MUST BE DONE:

Empowering and funding programs similar to the snowmobile management program for all forms of off-highway vehicle recreation.

USE OF VEHICLE TYPES IN DISPERSED RECREATION



MOTORIZED, NON-MOTORIZED VEHICLE USE IN DISPERSED RECREATION



Funding



Presently, the *Montana State Parks Program* is adequately funded to meet most of its responsibilities.

But, this has not always been the case.

And, it may not be the case in the future.

Are the responsibilities before the Parks Program adequate to the needs of the people?

Will the parks system continue to expand through acquisition of important recreational lands?

Are current sites adequate for future needs or will they require rehabilitation as pressures increase on them?

The answers to these questions will determine future funding needs.

If the parks system is to provide services and facilities to an ever-increasing variety of recreationists—backpackers, cross-country skiers, offroad vehicle users, to name a few—then *new funds are required*.

If important lands with high scientific, cultural and recreational values are to be acquired, then they must be cared for—so *new funds are required*.

If sites currently in the park system are to sustain new and increasingly heavy use—then *new funds are required*.

Beyond the question of “how much” for the parks system is the question of “who should pay the ‘how much’.” While there is justification for continuing to at least partially support parks from general tax revenues, an equitable balance must be sought. Our goal is: *to shift to park users an equitable share of the cost of operating the parks.*

WHAT IS BEING DONE:

(1) We are seeking alternate, reasonable and adequate sources of financial support.

(2) We are studying the feasibility of a parks foundation drawing upon private resources.

(3) We are examining the economic cost and benefits of recreation generally, and parks specifically.

(4) We are evaluating and trying new techniques of running parks which reduce operation and maintenance costs.

